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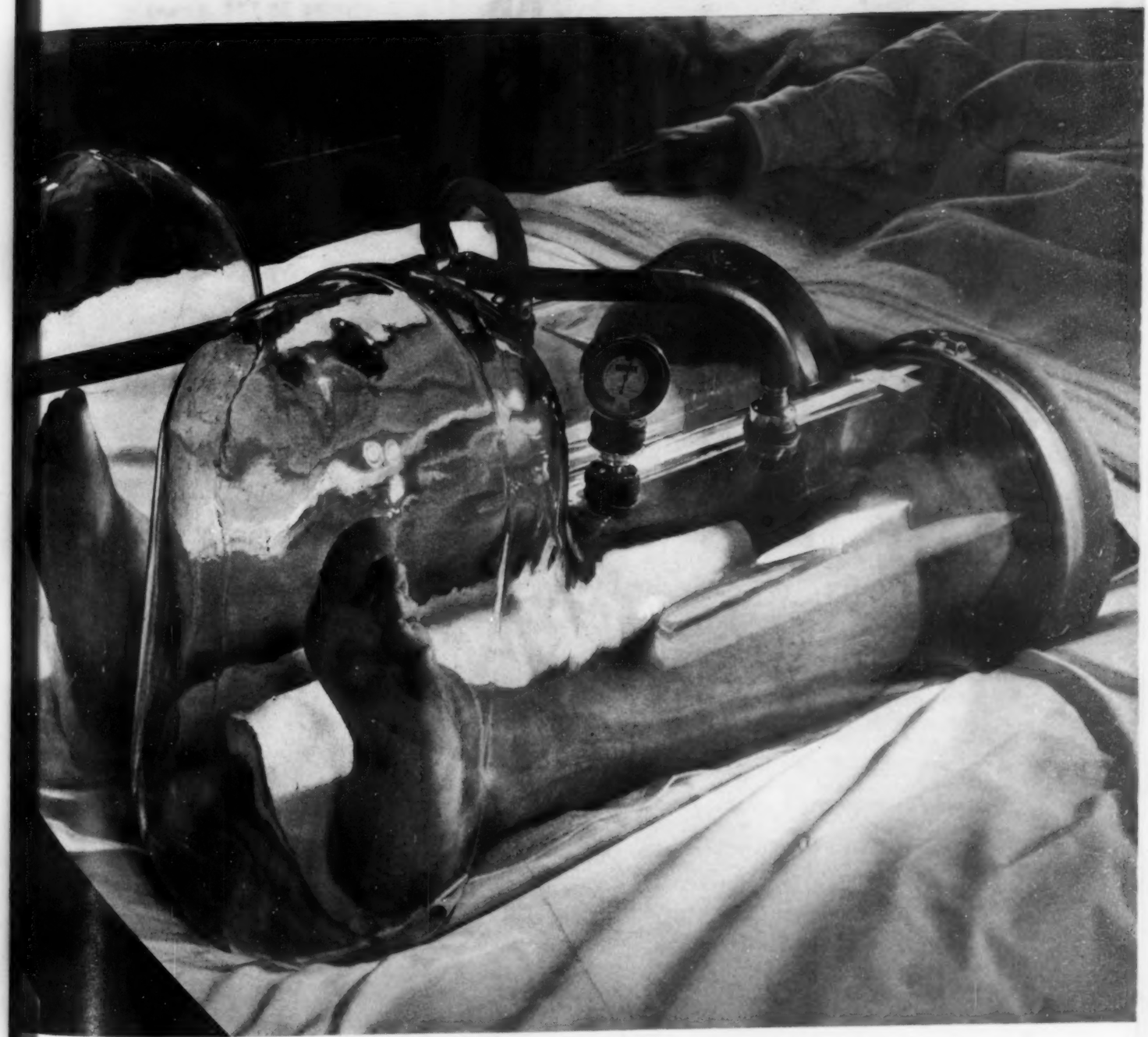
THE HEALTH MAGAZINE

HYGEIA



YOUR HOSPITAL See page 446

JUNE · 1941 · 25c

CORRECT SUN GLASSES are helpful in strong Summer sunshine. But not all so-called "sun glasses" are correct.

The ordinary "pressed" or "blown" colored glasses often contain imperfections—waves and bubbles—which not only impair vision but place a direct strain on your eyes. By all means, avoid them.

The safe, helpful and *healthful* rule is to buy your sun glasses in reputable *optical* establishments. There you will receive a first quality, scientific ophthalmic glass. This will be ground to your prescription if you wear glasses, or "plano" (no focus) if you don't. You will also obtain the proper type and amount of light absorption for your eyes.

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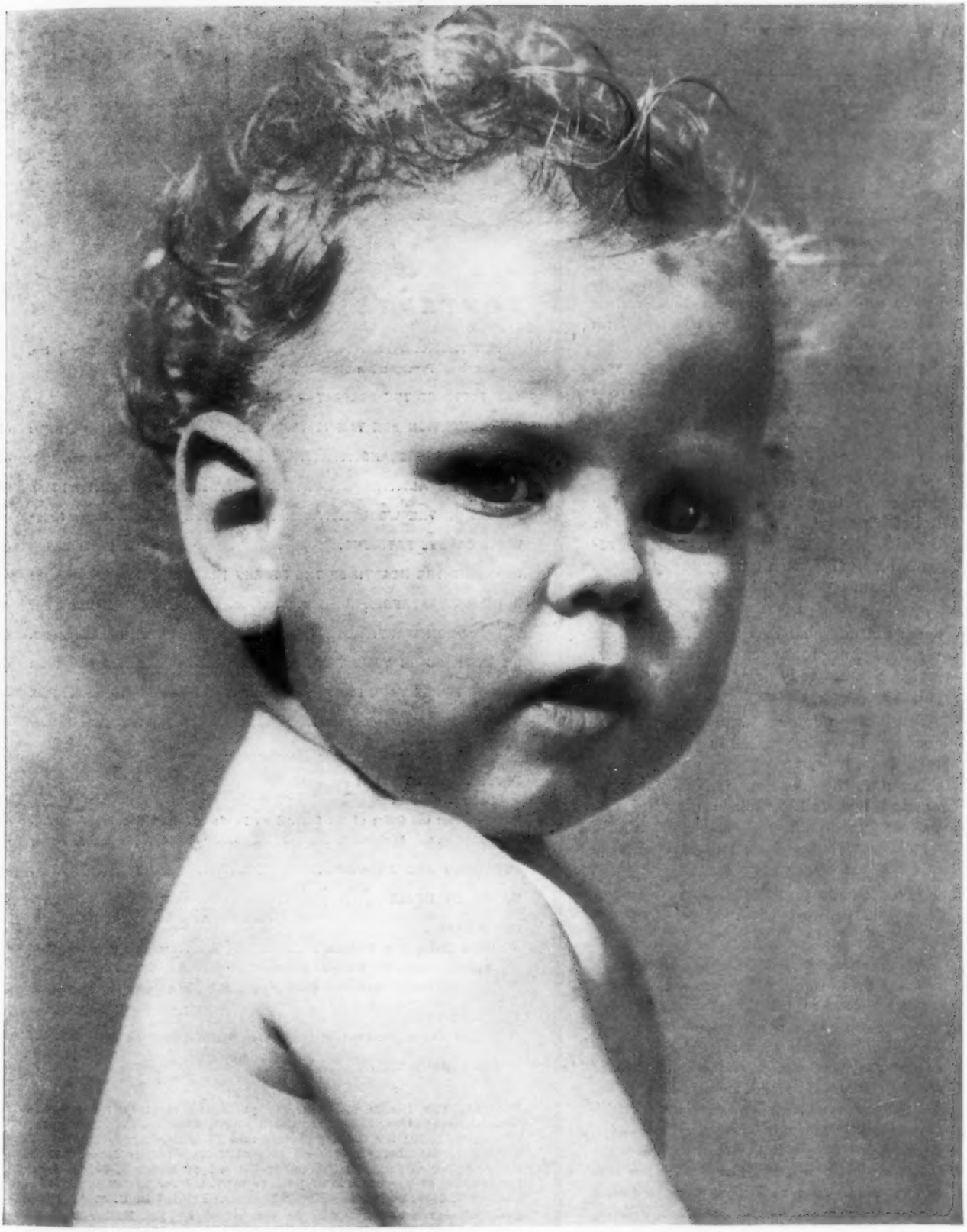

BABIES SUPERVISED BY PHYSICIANS ARE BETTER BABIES

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FORECAST

In teaching the adolescent boy and girl about sex and reproduction, the facts are important, but the way they are taught is of more importance. The parent is not the only one who tells his children about sex. By the time some parents get around to acquainting their children with the facts of life, they will have accumulated all sorts of information —and misinformation—at school, on the streets, from books, magazines and scandal sheets.

The special task of the father and mother is not merely to provide a formal lecture on the structure and functions of the reproductive organs, says George W. Corner, M.D. Neither can they provide cut-and-dried information about problems and dilemmas which occur more and more often as the children grow older.

Continue this frank series of articles with "Sex Education for the Adolescent Boy and Girl" in the July issue.

It was dawn following a heavy air raid when the emergency call from London came through to the British War Relief Society's American Hospital in Britain, writes Nancy Walburn: "Prepare for forty extra emergency patients. Ambulances on way."

When the ambulances roared up, out came not mangled RAF flyers, or civilian victims, but forty expectant mothers, looking amazingly self possessed and calm.

"But at no hour of the day or night are our incoming patients predictable," says Dr. Philip D. Wilson, under whose direction the American Hospital was opened last fall. "While most of our patients need orthopedic care, our highly specialized staff is often pressed into other types of service."

HYGEIA reports on "Britain's American Hospital."

After comparatively mild injuries to the shoulder, such as a light fall, a wrench, strain or blow, severe pain may develop not only in the shoulder but along the entire arm. In every injury, small blood vessels are broken and blood pours out under the skin—causing the telltale black and blue marks—and inside between the muscles, nerves and tendons. Swelling and pain follow, resulting in reflex stiffness or muscle spasms. Ultimately, the blood is absorbed, but Nature is sometimes slow in doing this; hence the painful irritation of the nerve endings continues. Fibrous adhesions may also develop around the muscles, causing prolonged irritating pressure and muscular stiffness and wasting.

Richard Kovacs, M.D., discusses next month the several painful ailments of the shoulder—neuritis, neuralgia, bursitis, arthritis and rheumatism.

HYGEIA

THE HEALTH MAGAZINE

Published and copyrighted, 1941, by the American Medical Association. Edited by Morris Fishbein, M.D.

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Courtesy Presbyterian Hospital, Chicago

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What can a man believe in?

Is NOTHING in this changing world unalterable? Are there no values to which we can cling? What *can* a man believe in?

Well, for one thing, there's the confidence a baby has in its mother; the yearning with which her arms reach out for her little one.

Look around and you'll find many other examples close at hand. Ideals that we defend with fierce conviction. Simple everyday truths that are rooted in the language—"women and children first"; "honor thy father and mother"; "give me liberty or give me death"; "a man's home is his castle."

To these should be added one more. Pride in work well done. The satisfaction that goes with believing that the priceless ingredient of every product is the honor and integrity of its maker.

Every Squibb product—whether made especially for prescription by the medical profession or for proper everyday use in the home—bears an individual control number. It means that each detail in the product's making has been checked against rigid Squibb standards and recorded under that number at the Squibb Laboratories. Look for the name and control number when you buy. You can believe in Squibb.

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"The Adcomber"

looks at Hygeia ads

Can you answer the important questions about eyesight on page 496? The Guild Opticians give authoritative answers in this issue—and offer their complete brochure on the care of children's eyes. Yours for the asking . . you're welcome!

• • •

For a welcome "birth gift," or to promote happiness in your own nursery, get a Teeterbabe Baby Chair. Gentle exercise and safe amusement for baby—and a boon to busy mothers! Use it inside . . outside . . in the automobile. Picture on page 501.

• • •

Here's a tempting child picture contributed by Squibb, over the caption, "What can a man believe in?" Here's a health safeguard you can believe in, too — the individual "control number" on every Squibb product. Why? See page 435.

• • •

One of the "latest things," which turns out to be also one of the *best buys*—we mean Meds. "Safety center." Twenty cents a box of ten. A tampon in individual applicator at this price is *news*—yes? Turn to page 490.

• • •

"You cannot escape the sun, so glow with it." Costume . . cosmetics . . YOU—all warming up to the tone of summer. Time to blend *your rouge and lipstick with summertime skin coloring and gay vacation clothes. Don't be a Lag Lady! See page 487.*

• • •

You needn't buy beauty "in the dark"—ANY MORE—say Beauty Counselors. They recommend that you "try before you buy," and back up their recommendation with an offer to send you THREE TYPES TO TRY—two weeks' supply!—all for 10c and the coupon on page 485.

• • •

Slit fishbones for sun glasses? All right for Eskimos, maybe—but are *your* sun glasses all they might be? AO sun glasses are expertly ground to optical standards . . shut out "sunburn" rays . . blend with complexions . . Page 499.

• • •

Four Point Protection for baby's vegetables is mighty well worth having when it means more vitamins and minerals. And that's not the fourth of it—as you shall see on page 475. Turn, please!

• • •

DID YOU EVER WONDER why Nonspi prevents unpleasant underarm odor? Or do you use this widely accepted perspiration check? If not, you can "get to know" Nonspi for as little as a dime . . . See page 491.

THE ADCOMBER.

Who's Who IN HYGEIA

R. H. RULISON, M.D., graduated from Troy Conference Academy, Poultney, Vt., in 1899; from Syracuse University College of Liberal Arts in 1903 and from Syracuse College of Medicine in 1907.

He interned at St. Joseph's Hospital, Syracuse, and later engaged in general practice in Monroe, N. Y., until the early summer of 1917, when he went overseas. His service abroad began with the first American Red Cross commission to Rumania which involved crossing the Pacific, Japan, Siberia and Russia. In Rumania starvation, typhus fever, recurrent fever and smallpox were everywhere prevalent. Rumania surrendered in the spring of 1918 and the commission left, crossing Russia from Odessa to Murmansk. The commission reached England in early May and proceeded to Paris. Dr. Rulison remained at the Red Cross headquarters in Paris until the end of the war. His work there was the administration of almost 20 Red Cross Hospitals in the Paris sector.

Dr. Rulison has published numerous articles on dermatological subjects, mostly in special journals. His hobby is trout fishing and the making of pig nut hickory frames for trout nets.

His article, "The Common Wart," appears on page 463.

FRANK HOWARD RICHARDSON, M.D., author of "How to Nurse Your Baby," page 468, received both his A.B. and M.D. degrees from Cornell University and continued his studies at Vienna University as a graduate student.

He served in World War 1 as a 1st lieutenant and later as a captain in the medical corps with the A.E.F., attached successively to the 102nd Field Signal Battalion, 106th Infantry (27th Division) and in the British Field Army in Belgium and France. He was cited in the 27th Division orders "for fearlessness and unremitting attention to the wounded of his regiment during the battle of the Le Selle River, October, 19-20, 1918."

Dr. Richardson is the author of many books—perhaps the best known of which is "Simplifying Motherhood"—and a frequent contributor to HYGEIA and other contemporary magazines.

MALCOLM T. MacEACHERN, M.D., author of "Your Hospital," page 446, was born in Argyle, Ontario. After completing the Teachers' Training Course, Lindsay Model School, Lindsay, Ontario, he taught school, graded and ungraded, from January 1902 to June 1906.

He received his M.D. degree from McGill University Medical School, Montreal, in 1910 and served his internship at the Royal Victoria Hospital in the same city.

From May 1922 to August 1923 he served as director general, Victorian Order of Nurses for Canada, to survey nursing conditions, particularly as they applied to public health and visiting nursing services throughout the Dominion.

In 1925-6 he conducted a six months survey of hospital conditions in the states of Victoria and New South Wales, Australia and the Dominion of New Zealand; and gave in Melbourne a series of lectures on hospital administration. Based on the results of the survey, he made recommendations to the respective governments directed toward standardization and improvements in their hospital systems.

Dr. MacEachern is author of "Hospital Organization and Management," a Fellow of the American Medical Association and a member of the Canadian Medical Association, as well as other local medical societies both in Canada and the United States.

The Doctor goes "upstairs"

THE CYCLONIC PROGRESS of military aviation has imposed new and unexpected strains on pilots.

It is as though a whole new group of diseases had suddenly come into being to plague the aviator. To meet these threats, the medical profession is mastering a new field of knowledge—Aviation Medicine. And, in both the Army and the Navy, flight surgeons are spending as much time as possible in the air.

With a first-hand knowledge of what a pilot is up against, these flying doctors are perfecting ingenious preventives and safeguards. They are doing this in two ways. First, by devising new tests which eliminate all applicants except those best qualified for military aviation. Second, by providing greater protection for the men who pilot today's tornado-like planes . . . helping to cushion shocks and strains such as the momentary "blackout" that occurs on the "pull-out" from a power dive.

To such new problems medical science will *continue* to find the answers. Its record in civilian life is a guarantee of that. Hardly a disease can be named that has not been robbed of some of its mystery, some of its terror and suffering, within the space of the last few years.

Doctors have developed new and effective treatment for diabetes . . . epilepsy . . . pneumonia . . . pernicious anemia . . . syphilis, and nutritional diseases. These are among the more spectacular conquests over pain and suffering. But not every step in the forward march of medical science is recorded in the headlines. Our store of medical knowledge is constantly being enriched by unheralded contributions from the country's practicing physicians . . . the men whose daily work keeps them in the "front line" of medicine.

Thus, thanks to the patient, unselfish work of physicians everywhere, medical science achieves new miracles of healing, year after year—through troubled and tranquil times alike.

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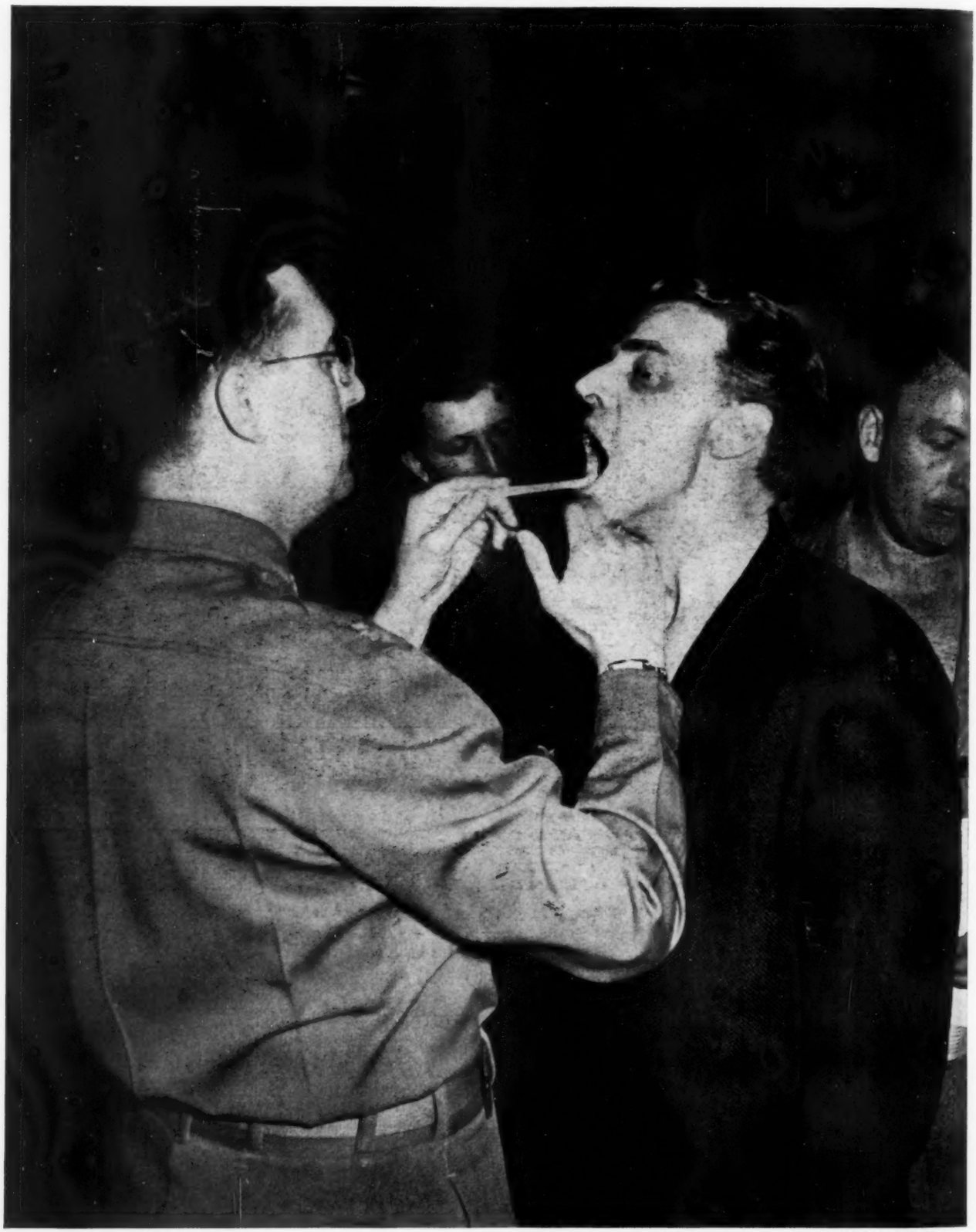


U. S. Army Signal Corps

Under the Selective Service Act of 1940 the recruit must have a mouth that is free from an infection like pyorrhea, and at least six good teeth in the upper jaw approximate to six good teeth in the lower jaw, including both his incisors and molars.

The TEETH of the RECRUIT

THE STATISTICS thus far available concerning examinations made under the Selective Service indicate that for the vast majority of conditions the young men who are examined under the Selective Service Act of 1940 are more healthy than were those examined in 1917. These results are apparent notwithstanding the fact that the standards are higher and the methods of examination more scientific and rigorous.

Civilized man does not fight with his teeth. However, the soldier has to have reasonably good dental equipment for a number of reasons. In the Civil War he used his teeth to bite the caps off of cartridges. In the World War he used his teeth to pull the pins on hand grenades. But most of all he has to have good teeth because it is well established that an infected mouth is associated with infection elsewhere in the body. The standards for 1940 require a mouth that is free from infection, like pyorrhea, and at least six good teeth in the upper jaw approximate to six good teeth in the lower jaw, including both incisors and molars. The standards for teeth in 1917 were much less specific; in fact, only gross dental decay was reason for rejection. Out of about 2,500,000 men who were examined in 1917, only about 37,000 were rejected because of dental defects, and it is clear that only the grosser defects were recorded. So much more attention is being given to teeth under the present system of examination that the number rejected for teeth is about three times as great, proportionately, as in 1917. In order to meet the situation, the American Dental Association has offered the service of its members to the local draft boards, and it seems quite likely that the use of such dental consultation can salvage a good many of the men who are now being rejected.

There are many different causes for the deficiencies that exist as they relate to teeth. No doubt the extent to which malnutrition prevails is reflected also in dental deficiencies. The failure of the excellent campaigns of education regarding dental hygiene and cleanliness to reach the multitudes plays some part.

In the evolution of man, teeth are found to be less necessary than they were for primitive man. Perhaps the gradual change in human food is having a permanent effect on the germ plasm concerned with dentition. It is barely possible that the teeth, like the muscles and the hair, will eventually succumb to the atrophy of disuse.

In the meantime, leaders in dentistry recognize three possibilities for saving our teeth. Preventive dentistry is among the most important. Adequate attention to the teeth of children, particularly as it relates to their nutrition and cleanliness, and the repair of small defects as soon as they occur will unquestionably lead to improvement for the future. Indeed several authorities in the field of dentistry believe that the development of a suitable plan to reach the vast majority of children in this way is as fundamental to human health as general inoculation against smallpox and diphtheria. Thus L. W. Morrey has said that the average dentist spends but 2 per cent of his time on child patients, whereas 90 per cent of children need dental care. Peter J. Brekhus asserts that this may be interpreted to mean that between twenty-five and thirty million children in the United States are suffering from untreated dental caries.

The high incidence of rejections because of teeth need not be a cause for despair. The condition is a remediable one. It does not indicate any great breakdown in American health or any certain failure of American youth to meet the demands of military necessity. The results of the Selective Service examinations indicate, rather, a specific field in which vast improvement in human health can be accomplished by careful, scientific planning and cooperation.

Sex Education

FOR THE TEN YEAR OLD

By M. MARJORIE BOLLES

TWO DIFFERENT things are meant when the terms sex information and sex education are used. Sex information refers to the body of facts of physiology and anatomy that relate to sexual function. These facts, to a child, are in a different category from the facts of geography or other natural sciences. Through the process of sex education these facts are placed in a setting of social attitudes, emotions and moral values. The parent who gives only sex information and fails to recognize that an important part of the task is to aid in the development of healthy attitudes, ideals and practices is failing in a vital phase of the education of the child. Essentially, then, the parent must first realize that the responsibility is not merely to inform but to educate in the broad sense of the word.

To be really successful in handling sex education for the 10 year old, parents should realize that they must formulate their answers on the child's level of understanding and interests. The 10 year old is more interested and attached to members of his own sex than to members of the opposite sex. This phase has been called the latency period. Whereas 6 year old boys and girls mix freely in their play, on the basis of equality, there is a sharp separation of the sexes in group activities between the ages of 8 and 11 years. A boy of this age will not join in games in which he is the only boy, and will avoid even sitting next to girls. Toward the end of this phase—11 years—the child will begin to show self consciousness and shyness in the presence of members of the opposite sex. At the age of 13 or 14, the social-sex development of the boy has reached the stage at which he adopts a teasing attitude toward his friends who have girls. The girl of this age has started to be "boy conscious," although she is not interested in any one specific boy.

In answering sex questions, the parent should find out first how much information and misinformation the child has already collected. In order to do this, the parent may take advantage of the well-known device of turning the question back on the questioner by such a remark as "What do you think?" or "What is your theory of the way it happens?" By using such an approach, parents may find out the child's own theories or fantasies about sex relations and reproduction before confronting him with new information which might be both conflicting and confusing.

Sex education for the 10 year old child must fit in with the type and accuracy of information he has already acquired. Some parents have answered the earlier questions of their child in a wise, matter-of-fact way. For these parents, the furthering of the sex knowledge of their 10 year old child is relatively simple. It will amount to an elaboration and some repetition of what has gone before. Information complete in biologic detail is probably best deferred until the period of adolescence, since then he will be able to read and better understand available pamphlets and books. The parent of the 10 year old child can lay the groundwork in information and attitudes toward sex, so that later the child will be capable of reading about sex without regarding it as either disgusting or spicy.

If the child has been "precocious" in sex interest, or if the parents have had an extensive biologic training, then the child will probably have had a complete biologic explanation before the age of 10. Other parents who have adopted an ultra "modern" attitude through

A 10 year old child is usually more interested in the members of his own sex.

having been exposed to some of the theories on the importance of sex and sex attitudes in personality will have felt that the younger child must "know all" in order to develop normally. A frequent result of this too early presentation of all facts is confusion and misunderstanding on the part of the child. As Freud has pointed out, the difficulty in giving sex information to the young child is that the child is unable to understand it physiologically. From this point of view, the too early presentation of all the "facts of life" may be even more difficult to understand than reference to the famous stork.

Few parents adapt their answers of their child's questions to the growth in mental age of the child. Neither do they make much of an attempt to find out how much sex information the child has picked up outside the home. As a result, this haphazard collection of information frequently fails to make sense to the child. For example, the parent may encourage the child to raise pets so that he becomes interested and enthusiastic about the arrival of new litters. In spite of this interest it has been found that most children fail to see any similarity between animal reproduction as they have seen it and the facts of human reproduction.

The parent who thrusts a book or pamphlet in the hands of a child and literally, or at least psychologically, "runs away" is providing a partial explanation of little value. A book can give information, but it rarely affords a basis for an attitude of healthy interest and understanding.

Some parents, because of their own childhood experiences and attitudes toward sex, evade the questions of the younger child. "My child is too young." "I don't believe a child's mind should be burdened with such things." "Information stimulates curiosity." A parent

who feels this way is apt to tell a child to "wait till you're older," or may offer some fantasy explanation which is supposed to quiet the child's curiosity temporarily. Even today some parents resort to the stork story or the story of purchasing babies in department stores in order to sidetrack the child's interest and to gain at least a "breather" from his questions. One of the girls who took part in a study made of sexual development reported the following:

She was the oldest of five children. Her parents did not believe that children should be given any sex information until they were "old enough to understand it"—presumably this understanding process did not occur until they were about 16 years old. In order to explain new additions to the family, the older children were told that the babies were left in boxes by the fairies. In order to make their story convincing, the father placed one newborn in a box outside the door and then called the children to help "discover" it. Another baby was placed outside in the garden—fortunately it was in the summer. When this girl was asked what she thought about these practices, she laughed and said, "Oh, I think it would have been much less bother for them if they had just told us the truth."

The method of evasion of questions cannot be successful for several reasons. In the first place, fantasy explanations give rise to so many more questions that the parent is still harassed by continued cross examination, or the child decides that his mother or father will not answer such questions. The normal child gathers information from playmates which, though it may be inaccurate, is better than falsehoods. Evasion and prudery on the part of the parent are apt to lead to the development of unfortunate sex attitudes as the child becomes an adult.

Parents who have evaded any and all of their child's questions concerning sex are faced with a serious problem when that child is 10. The parent should try to solve the problem with a minimum of stress and strain and to assume as objective an attitude as possible. If the parent is emotionally incapable of such objectivity because of personal sexual maladjustment or any other cause, then the best solution will be to ask the family physician to talk over with the child such questions as the child asks.

There are certain specific problems regarding sex education which may arise. In the first place, there is the parent who reports, "My child doesn't ask questions." We know from the studies that have been made, that this does not mean that the child had no curiosity. It may mean that the child does not dare go to the parent for information and instead depends on other sources. Information should not be forced on the child by the parent but rather the parent must consider what factors are probably preventing this normal questioning. It may be the child's lack of confidence in the parents' sympathetic understanding. In such a case, the wise parent would make some effort to develop a feeling of closer understanding with the child and would not approach the problem directly but rather attempt to join in the child's interests and activities to a larger extent so that this particular branch of interest will gradually fit into the things discussed between parent and child. In the second place, the fact that the child does not bring questions to the parent may be the result of the fact that attitudes have been built up through dirty stories told by playmates and acquaintances which he believes unfit to repeat to his parents. This is only one item of many which should make the parent realize that the sex information that they give the child is only a part of that to which the child is exposed. In other words, the parent should not labor under the delusion that by omitting or suppressing any talk of sex topics the child's mind is therefore not concerned with them. It merely means that the child is going to other sources. These other sources may or may not be desirable. If early childish curiosity had been adequately handled by the parent, the child would probably have brought home to the parent the back-alley stories when he first heard them and would have asked for an explanation instead of placing them in the category of unmentionable subjects.

Another special problem that comes up is the child with "precocious" interest. In most cases, such children have been exposed to a wide variety of dirty stories from children their own age or older and have not been able to understand the stories and incidents that they were told. This early curiosity, which might have been allayed by simple and honest statements from the parents, has increased to the point where it is a source of worry and concern to the child. In certain cases, where the interest is so extreme that the child is preoccupied with sexual matters, the problem may be one for the child *(Continued on page 482)*

The PROSTATE GLAND

By HERMAN L. KRETSCHMER

Like many another disease, the cause of an enlarged prostate is enveloped in numberless fallacious conclusions

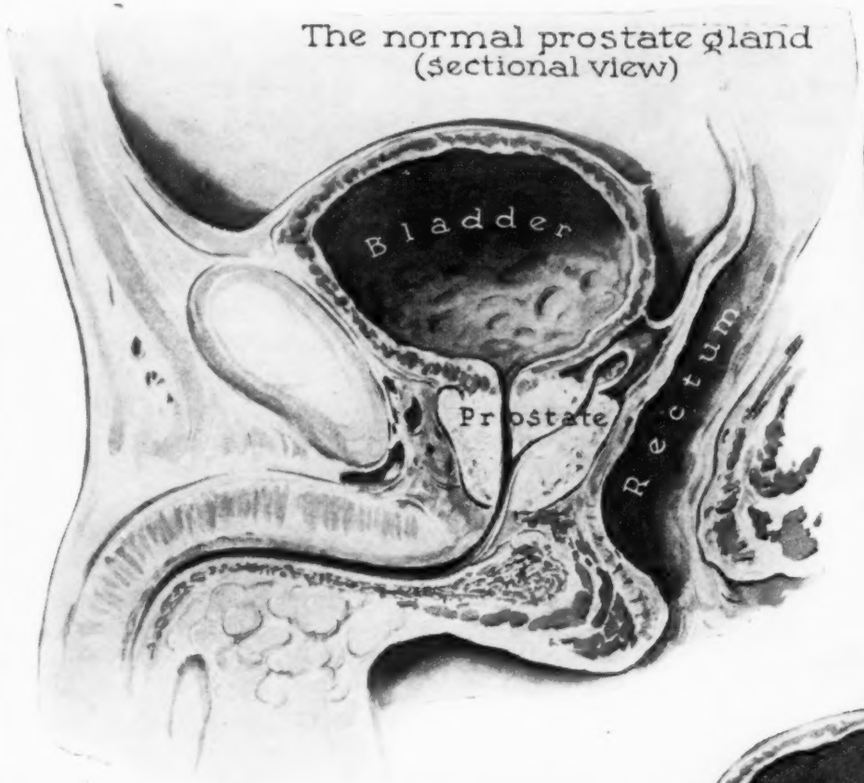
WHEN A PATIENT is told by his physician that he suffers from an enlargement of the prostate he is most likely to say: "Doctor, what is the prostate?"

The prostate gland is a part of the male genital system. It is located in front of the neck of the bladder and surrounds the urethral canal. Its shape is similar to that of a chestnut and it is grayish or grayish-red in color. It varies in size within certain physiologic or anatomic limits. Usually it is from 1 to 1⅜ inches long, 1⅜ to 1¾ inches wide and ⅘ to 1 inch thick. The average weight is about ¾ of an ounce.

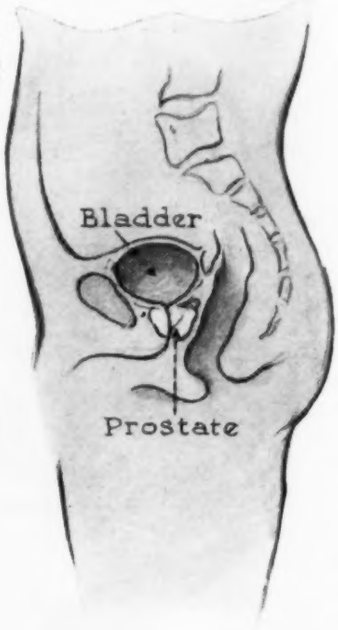
Often patients ask the doctor why men have a prostate gland. Today physicians still debate whether or not the prostate has an internal secretion like that possessed by other glandular organs, e. g., the thyroid, the pancreas or the sex glands. Absolute proof that the prostate has this function is not yet available.

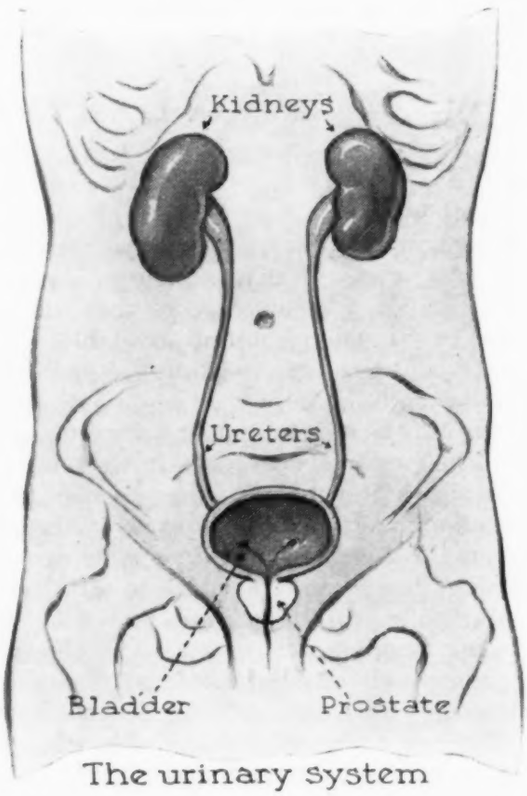
Once it was believed that the prostate gland had something important to do with urination; now this view is no longer believed.

The prostate does give forth a milky fluid in which the male element is carried to the female in sex relationships. It is also believed that this fluid protects the sperm or male element during its transport to its destination. When the prostate enlarges late in life, troublesome symptoms occur. The specific cause of enlargement of the prostate is unknown. Many theories have been advanced at various times. The one constant factor is that of age. The enlargement occurs in men after 50 or 55 years of age. Rarely does the disease occur before 50, but generally the older men are the ones who suffer from this condition.

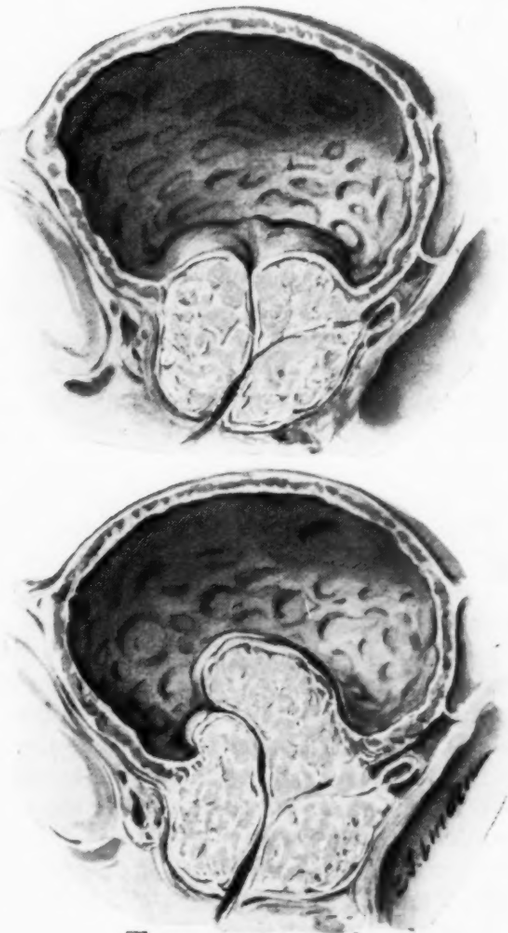


The normal prostate gland
(sectional view)





The urinary system



Two types of enlarged prostate

Unfortunately, some people have the erroneous belief that enlargement of the prostate in elderly men is due to a previous infection with gonorrhea. Actually, many men who have enlargement of the prostate have never had gonorrhea. Another erroneous notion, namely, that chronic infections in the prostate in the young man are always due to gonorrhea should also be corrected. Many of these infections are due to common germs, the streptococcus, the staphylococcus and the colon bacillus. But often more than one kind of micro-organism is present.

The enlargement of the prostate is not cancer. Nevertheless it endangers the life of the one afflicted because of serious complications that follow. These are due to mechanical interference with drainage of the urine—that is, with inability to empty the bladder completely so that the bladder always contains some urine. This is called "residual urine." Sooner or later serious damage to the kidneys appears, the work of the kidneys is impaired, waste products instead of being eliminated are retained in the blood. Such a condition sooner or later leads to "uremic poisoning."

Whenever "residual urine" is present, infection with bacteria is likely to develop. This leads to serious complications—blood poisoning (urosepsis)—which may end fatally. For these reasons patients with enlarged prostates should seek relief early in the course of the illness.

Young men may have chronic infection of the prostate and this may be the source of disease in other parts of the body. Acute or chronic inflammation of the joints, sciatica, muscular rheumatism and iritis (inflammation of the eye) have been accredited to this causation. In this group of cases there may actually be an absence of any symptoms referable to the prostate itself. Conversely, the prostate may become infected from distant foci of infection in the tonsils, teeth and sinuses.

Sometimes examination by the doctor will reveal stones in the prostate. Small deposits in the form of sand are found which usually do not produce symptoms and hence rarely require treatment. Large stones are rare, but when they produce symptoms, they must be removed by operation.

Tuberculosis limited to the prostate gland is another rare condition, but some specialists are convinced that tuberculosis of the genital tract begins in the prostate.

Finally, there is cancer of the prostate, which occurs in about one out of 5 patients who come to the doctor and describe symptoms associated with the prostate.

The symptoms of enlargement of the prostate are due to the changes produced at the neck of the bladder. Early in the course of the disease the symptoms may pass unnoticed by the patient. Usually they increase slowly. Most common is increased frequency of urination, especially at night. Sooner or later the patient complains of pain and burning. Then he finds increasing difficulty and great straining at urination so that he passes smaller and smaller amounts of urine. Finally he is unable to void at all. Then it becomes necessary for the doctor to insert a catheter, a small rubber tube, and thus to withdraw the urine. If infection occurs, chills, fever and severe sweats begin to appear.

Certainly every person with an infected prostate should avoid fatigue, chilling of the skin, overeating and constipation. The use of heat in the form of a hot sitz bath in the morning and evening is of great value. Mild massage of the prostate has beneficial effects but will not cure the condition. Determination as to how often a catheter is to be used depends on the amount of urine that remains in the bladder, the amount of infection present and the severity of the symptoms. Eventually these palliative measures fail and removal of the prostate becomes necessary.

In the open operation, an incision is made in the abdomen just above the hair line (suprapubic prostatectomy), or an incision is made in front of the anus (perineal prostatectomy). One or the other of these operations were employed routinely in all cases until 10 years ago.

Today these operations have been practically replaced by a new type of operation. The prostate is now removed through the natural channel without the necessity of an incision (transurethral prostatectomy). Various types of instruments are used by urologists. This new operation has many advantages, especially a lower mortality rate, fewer and less serious complications and a shorter stay in the hospital.

Now what can be done to prevent the occurrence of enlargement of the prostate? Unfortunately, a form of treatment which will prevent enlargement of the prostate gland is not known. At present a good deal of interest is manifest in treating this disease with various types of glandular products, but their use is still in the experimental stage.

Photographs from Presbyterian Hospital, Chicago

YOUR HOSPITAL

Modern trends and concepts that gleam like beacons on the horizon of medicine furnish substance for envisioning the hospital of the future. But today's most revolutionary methods frequently become obsolete tomorrow

By MALCOLM T. MacEACHERN

THE BOMBING PLANES and anti-aircraft facilities of the last war are no more outdated than much of the equipment used in the hospitals of that period, distant though it is by only a little more than twenty years.

We move fast in changing our means and methods of warfare these days, whether the opposing forces are people against people, or people against the insidious forces that threaten and destroy them—disaster, accident, disease, poverty, ignorance.

There is urgent need, for our own preservation, to strengthen our forces in the fields of education, scientific research, social service and health. Health in particular has double value today: first, its intrinsic value as basic to individual and social well-being under any circumstances; second, its value in military preparedness and as an essential factor in the

In the hospital, bottle-fed, newborn babies are held by a nurse for each feeding. When specific formulas are necessary, they are prescribed and prepared accurately by attending pediatricians.

Each new air-conditioned incubator cubicle is equipped with its own bassinet, shelves, crib table, scales, thermometer, waste receptacle and other facilities necessary for infant care.

national defense program as it affects all of our people.

It is no idle figure of speech to call the hospital a battlefield. Not only is the hospital scene like military warfare in the grimness of the battle between opposing forces that is there fought, but it is like it in the constant endeavor for newer and more effective equipment, tactics and organization. It is like it also in the growing emphasis on the superior efficacy of offensive measures over defensive ones. Modern medicine takes the initiative in hunting for trouble; it does not wait for trouble to appear before seeking combative measures. A state of health is not taken for granted without investigation in the modern hospital any more than security from attack because the enemy is not in sight is taken for granted when nations are at war. Attack at the first suspicion of danger is today's watchword in medical practice and hospital service. With the help of many instruments of precision and laboratory tests, the finger of suspicion can be sooner and more accurately pointed than ever before in the history of the world. The result is that lives are saved and health is preserved that twenty years ago, ten years ago, even last year, would have been sacrificed—lost to the enemy—because of delay.

Said a hospital architect in a recent article:

"When the historians of the future compress the events of the days of our years into a couple of pages of history, posterity is going to think that we lived in a whirlwind. Reflect on the developments in the last decade: The technic in every department of the hospital has changed greatly. The equipment and the tools with which hospital services are rendered have

advanced and improved almost as rapidly as the metamorphosis of the automobile."

The superintendent of a hospital in New Jersey, discussing modernization of facilities for patients, wrote:

"The ever changing demands of modern medicine foster new concepts of hospital performance. The most advanced practice of today is obsolete tomorrow. Much of the changing attitude on the part of society towards hospitals has been brought about with the improvement of physical facilities."

The director of the department of radiology in a city hospital declared:

"The hospital is rapidly becoming the focal point of all medical practice, and one result of the many changes taking place is that the x-ray department is being given new and extraordinary importance. If this department is to render service which will be required of it under the new conditions, changes in both equipment and methods, bordering on the revolutionary, are in order."

Most dramatic of the offensive tactics against the enemy, disease, in our modern hospitals is surgical intervention. Volumes have been written about the progress in this art and science, which so drastically reaches the enemy already entrenched, perhaps about to strike at a vital organ but prevented just in time. Surgical intervention, however, has advanced with the aid of many other auxiliary services in the hospital. If surgical intervention had to revert to the kitchen table again as a setting, it would quickly retrogress despite the knowledge and skills acquired since pioneer days. Adjunct services, many of them seldom thought of by the patient as a part of the treatment and recovery processes, have grown up around surgical intervention in the hospital until they are inseparably associated with it and the success of surgical intervention is conditioned by them.

Recently a surgeon began a discourse on surgical intervention in diseases of the lungs and pleura with the statement:

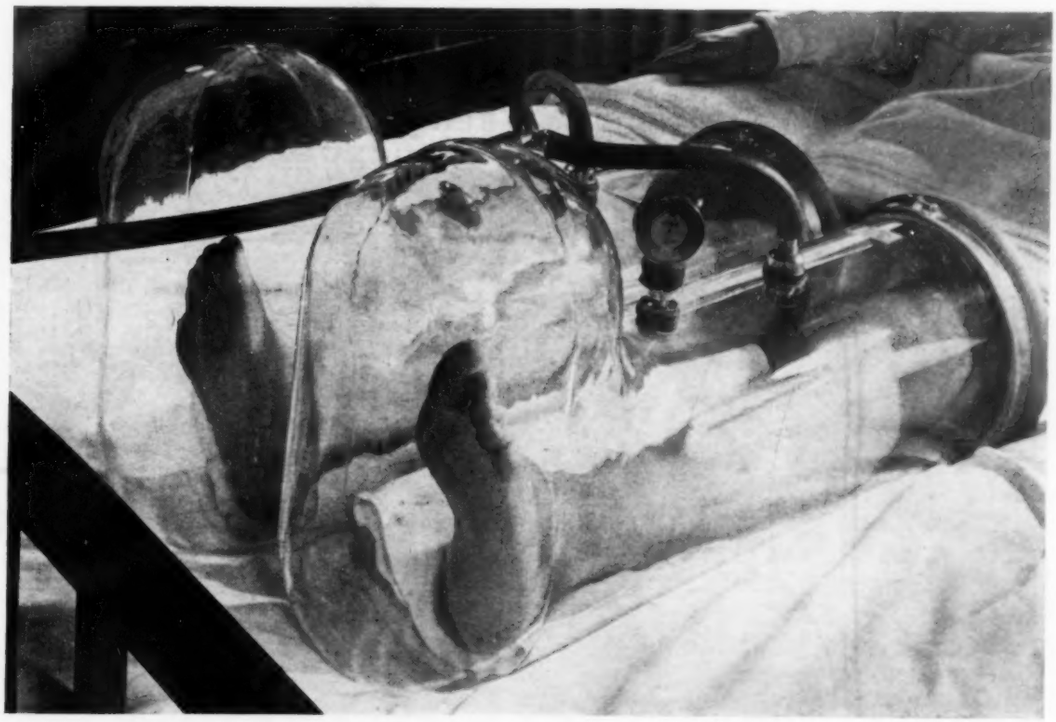
"Surgical intervention of the chest in the past few years has made rapid strides, largely because of advances in anesthesia. The hazard of operating on an open chest in which there are no adhesions with subsequent physiologic changes in respiration and circulation has been eliminated by the use of intratracheal methods of administration. This constitutes a closed system whereby the gas inhaled by a patient is completely controlled, and where the lungs are made to expand in spite of atmospheric pressure in the chest. Because of this feature, operation for extirpation of the lung, or portions of it, no longer carry the tremendous risk."

Nerve stimulation for facial paralysis is only one of the various treatments available in the physical therapy department of most hospitals.

Among the other aids to surgical intervention, which make victory on the hospital battle-

Left: New transparent plastics make the oxygen tent seem less confining, give the patient an opportunity to observe others.

Below: When poor circulation is caused by diseased blood vessels, effective treatment may be accomplished by means of the "glass boot" alternate suction and pressure machine.



field attainable in an ever growing proportion of cases, are carefully prescribed pre-operative diet and medication, blood transfusions, oxygen administration, rigidly controlled aseptic conditions, x-ray and radium therapy and, of course, skilled nursing both before and after operation.

As an example of the success of the surgical attack over the passive or defensive role in the treatment of disease, consider tuberculosis. It is universally admitted that rest and relaxation are the natural factors necessary for improvement and cure. However, it has been shown that even with the best of care, 90 per cent

Hospital pharmacists must know medicines and proper dosages.

A nurse's training includes comprehensive laboratory study.

of active, advanced pulmonary tuberculosis patients die within five years unless some drastic measure is taken. The drastic measure that helps—that artificially permits the needed rest for the lung—is surgical collapse. When this procedure is employed, even in far advanced cases, the mortality within a five year period is reduced to 70 per cent or below. Thus, one-fifth of the lives are saved, making the aggressive effort to stay the disease well worthwhile.

The department of internal medicine is attacking disease with the same initiative that is displayed by the surgeon. Insulin for diabetes has changed this disease from a hopeless category to one that can be controlled so that normal living and working are possible instead of invalidism for the 600,000 diabetics in the United States. Recently announced by the co-discoverer of insulin, Dr. Charles Best, and associates, are new diet regimen experiments which indicate that a means of prevention and cure of diabetes may shortly be available. Developments in endocrinology have placed powerful new weapons in the hands of the physician through gland therapy. The sulfonamide compounds—sulfanilamide, sulfapyridine and sulfathiazole—are new weapons against erysipelas, meningitis, peritonitis, sinusitis, mastoiditis, pneumonia and an evergrowing list of diseases. A recently announced new use of sulfanilamide, administered by mouth, by injection, or even by sprinkling it in wounds, is to reduce the danger of infection from wounds received in war. Injection of a drug called histamine will apparently, within a few moments, entirely cure a person unable to stand because of a dizzy spell, one of the manifestations of Ménière's disease. These are only a few of the very recent advances in chemotherapy that are making possible new victories over disease.

More important, however, than the development of specific remedies, whether surgical, chemical, nutritional, or of some other nature, is the advance in knowledge of the human body as a whole, and of the interrelationship of the mental, emotional and physical factors affecting health. The physician of today studies the patient as well as the disease, and therefore must, in order to obtain the best results, have a knowledge of his past history, environment and personality, in addition to the facts disclosed by thorough physical examination. The medical records and medical social service departments in the hospital aid him in obtaining this needed information. Consultations between specialists and general practitioners also help to assure a complete diagnosis.

An important part of hospital effort is concentrated on giving assistance and care during a natural human function that should not be associated with the idea of enemies in the form of disease. However, because in undergoing this natural process of birth both mother and child are exceptionally vulnerable to infection and the aggravation of already existent abnormalities, the hospital scene, even in the maternity ward, is similar to a battleground with every one alert to danger signs and quick to take aggressive action—perhaps in the form of operative procedures—to save life and minimize suffering. Here, too, anesthesia is an important aid to the obstetrician. More than a million times a year life begins in our hospitals, and in every one of these instances the hospital makes available great resources in personnel and facilities to help make it a good beginning. Success is shown by the fact that while 1 out of every 20 babies born in this country dies before it has reached the age of 1 year, only 1 out of 50 babies born in hospitals fails to enter its second year of life.

This fighting stand against disease—the positive rather than the negative, or simply precautionary, championship of the health ideal—has been built up slowly in our hospitals. In most hospitals through the ages no more had been attempted than bed, board and simple nursing care for the sick and injured. The new, aggressive attitude has been built to a large extent on the confidence gained through greater medical knowldege and through mechanical aids to diagnosis and treatment, used and interpreted by specially trained personnel.

Where would a modern army be without its mechanized units—the tank corps and air squadrons? Thus, the hospital can advance only through the utilization of x-ray machines, steam sterilizers, oxygen tents and rooms, microscopes, test tubes, incubators, stethoscopes, gastroscopes and a multitude of other special diagnostic instruments, besides chemotherapeutic agents such as sulfanilamide and sulfapyridine which are saving countless numbers of lives. Already, the new electron microscope, ten times more powerful than any microscope previously available, has penetrated the mystery of the grouping in chains of streptococci by revealing that they have rigid outer membranes. These new microscopes have also shown *(Continued on page 503)*

Borgia of the Woods

The best method of preventing ivy poisoning is still a wide detour of Rhus toxicodendron

By ROGER KAFKA

POISON IVY has plagued Americans for 300 years; it grows from Canada to Mexico—and nowhere else in the world. Yet common as it is and long as it has been known, astonishing false notions about it still are prevalent. A thousand-and-one remedies accumulated over the centuries have been not much more effective than the one prescribed by Captain John Smith—gunpowder soaked in milk.

Most widespread fallacy is that some people are immune to Rhus toxicodendron. Nobody is. After years of handling the vine unscathed, you may fall victim. A distinguished botanist thought himself immune, and with some reason after a quarter of a century of tramping woods and fields. But the twenty-sixth year found him in a hospital, severely poisoned.

It now is known that the blistery irritation is an allergic sensitization. As with all allergies, some people are more sensitive than others and all people are more sensitive at one time than another.

Two persons out of three are easily poisoned. Some of these sensitive persons assert stoutly that they cannot "so much as walk near the stuff." That is another superstition but an understandable one. The poison is the milky, oily sap, so slow to evaporate that gardeners have been poisoned by using in the spring contaminated tools that had been put away uncleaned the previous autumn. You may be poisoned when you unlace your shoes which have brushed against a leaf, or by petting your dog who has chased an imaginary rabbit through a patch of the weed. And you almost surely will be poisoned if you are moderately sensitive and stand in the smoke from a brush fire in which poison ivy happens to be mixed. That is not superstition; the smoke particles carry droplets of the oil.

Indians used to eat a few leaves in the spring, contending that it made them immune. There still are people who follow that practice. It confers no protection and it is extremely dangerous. The juice is much like carbolic acid and the United States Public Health Service reports cases of severe poisoning from swallowing it.

There is no poison ivy season; the stalk is dangerous in winter when it is completely bare. Every one should be able to recognize the three-leaf sprays in summer; every one, likewise, should learn to know the clusters of grayish white berries which hang on in winter until birds eat them. Incidentally, it is these birds which spread the pest.

There is no sure cure. The medical profession greeted with high hopes a toxin recently developed from poison ivy leaves. Spring injections of it do give some persons an immunity which lasts through a summer. Occasionally, they give others a worse case of poisoning than they would be likely to acquire in the woods. Similarly, injections sometimes swiftly cure patients already badly afflicted, but at other times they do not. Every physician now knows about the toxin, its merits and demerits, and uses it with discretion.

Best of all methods of prevention is to detour the ivy plants. The advice sounds platitudinous, but too many persons are not sufficiently respectful of Rhus toxicodendron; remember, it can put you in hospital for a month.

If you do come in contact with the plant, lather your whole body with suds of any good soap, rinse, and repeat. Soothing, protective lotions and hot compresses are standard treatment; they merely give relief.

If you must work where there is poison ivy, the United States Public Health Service suggests you smear all exposed skin surfaces with vanishing cream mixed with 10 per cent of sodium perborate. It is emphasized that this cream must be freshly manufactured. Any

druggist can make the preparation and it is cheap. The protection is good for four hours; it must then be washed off and a fresh application made if the exposure is to be continued. Nine courageous volunteers, two of them highly susceptible, tested this method for the Health Service. They pulled up the vines by the roots and rubbed their hands with the leaves. There were no ill effects. Private physicians are not sure the ointment would always give such perfect protection but they do think it worth using.

Every one should help eradicate the pest. The best way is to dig it out—the whole root, else it will sprout again. The digger should be protected with heavy clothing and gloves. Make a roaring bonfire, throw the uprooted vines on it—and go far away. Then thoroughly decontaminate clothing and tools with strong soap and water, wearing rubber gloves meanwhile.

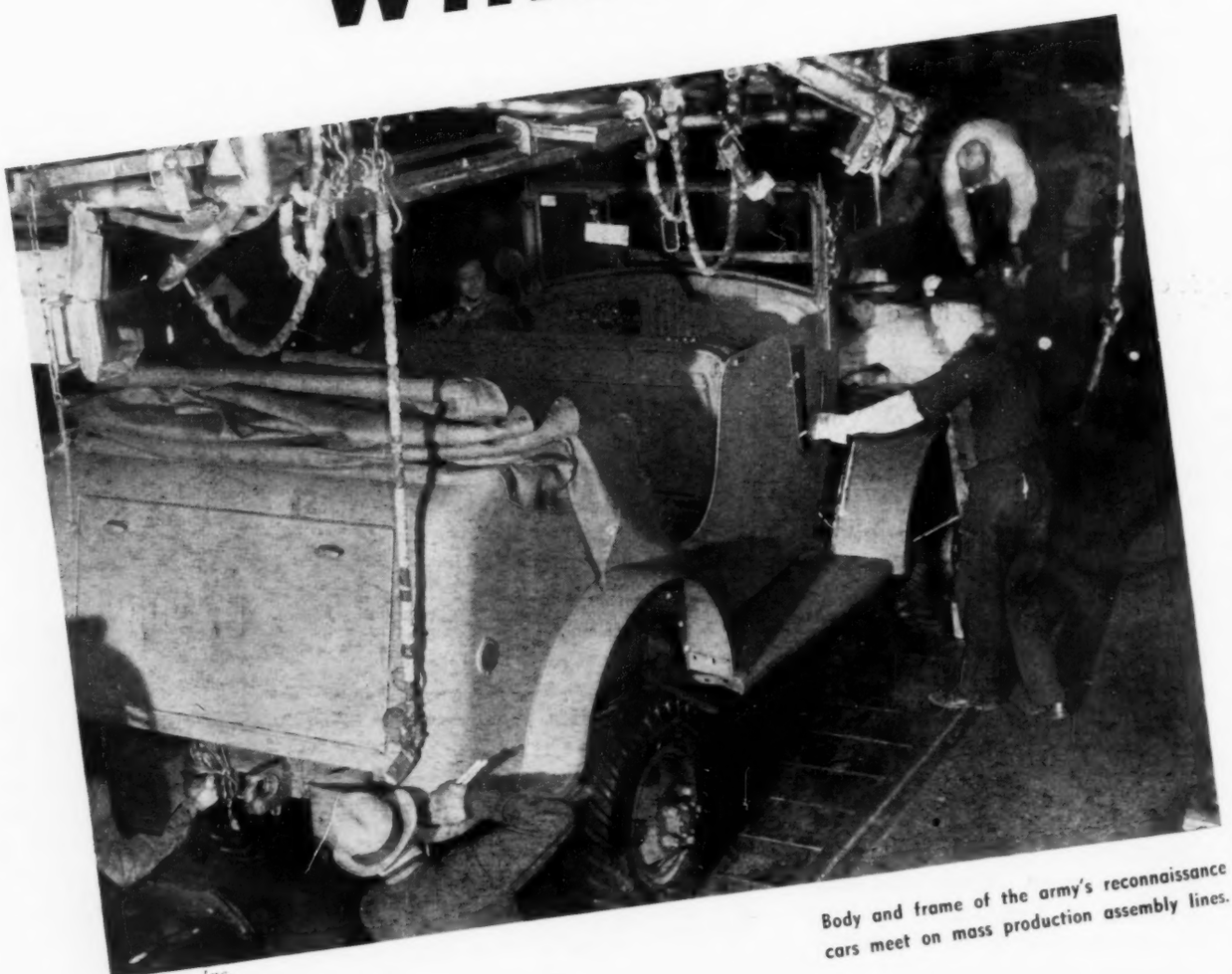
Easier, but slower, are repeated dousings of the plant and the soil at the roots with strong brine, or crankcase oil thinned with kerosene. Warning: nothing else will grow on the spot for at least a year, not even grass. The United States Department of Agriculture recommends, also, a solution of sodium chlorate, three-quarters of a pound to a gallon of water. When this dries, however, it is explosively inflammable. Five ounces of dry sodium arsenate to the gallon of water will kill poison ivy—also any animals that graze on vegetation it has contaminated.

Cooperative neighborhood campaigns to eradicate the weed are usually easy to organize and they are well worth while. Poison ivy and its Western counterpart, poison oak, are tough customers, hard to kill. But any one who has ever suffered from the poison kiss does not begrudge the effort.

Every one should be able to identify an ivy plant's characteristic three-leaf sprays in summer and its grayish white berries which hang on in the winter.

By DAVID B. DILL

WHAT CAUSES



Body and frame of the army's reconnaissance cars meet on mass production assembly lines.

Pictures Inc.

THE NUMEROUS chemical changes that occur when a muscle becomes fatigued are complex, depending, for example, on the initial nutritional state, the temperature, the rate of stimulation and the supply of oxygen. Ordinarily, the picture seems simple: the capacity of the muscle has been overtaxed and the processes of restoration have not kept pace with the processes of breakdown. Although an analysis of the various types of fatigue may reveal a wide divergence in details, there is one fundamentally common feature: disturbance of the balance between wear and repair.

It has been a task of the laboratory to study fatigue as seen in the intact organism. The subjects have been ourselves and our friends—both man and dog. While most of these studies have been carried out in the home laboratory, some have taken us far afield—to hot deserts, to humid cotton plantations, to steel mills and to high mountains.

The "flat-out" exertion of the sprinter produces a fatigue that has much in common with

FATIGUE?

Factors causing fatigue in industrial personnel are receiving greater attention in the national defense speed-up. Here are the results of some investigations that may increase your stamina

that of a laboratory nerve-muscle preparation. Muscles have a store of energy that in emergencies can be used for mechanical work without adequate oxygen. This results in accumulation of lactic acid, a demand for extra oxygen and an increased output of carbon dioxide after work is over: an oxygen debt has been contracted. Fatigue after such exertion is short-lived since a sprinter can run as many as three 50-yard dashes at record speed within an hour. The capacity for work is decreased only as long as there is a large oxygen debt. It is not necessary to wait for the lactic acid to be removed; on the contrary, the accumulated lactic acid may be a useful fuel in later runs.

In sports such as football—involving short bursts of activity with intervening rest periods—there is not much time for recovery between plays. In the frequent and abrupt changes of pace, the internal processes are thrown out of adjustment. For example, mobilization of carbohydrate outruns its utilization and the concentration of blood sugar increases so much that sugar spills over into the urine. Kidney function is so modified that albumin appears in the urine, and there is also a large increase in the number of leukocytes in the blood. Physical activity plus excitement is thought to raise the level of glandular activity. Even on the morning following a strenuous game the basal metabolism may remain elevated. Thus, fatigue of this origin may be extremely complicated.

Fatigue in the steel mill workman at the end of a hot summer day may depend less on the processes of energy transformation than on difficulties of heat dissipation. Because of profuse sweating, body fluids and body reserves of salt are depleted. These physicochemical disturbances in the internal environment place a handicap on contraction and recovery of skeletal muscles and may lower blood pressure enough to lead to a circulatory breakdown.

A person who is exposed to prolonged cold may also experience fatigue. Although the mechanism of this type of fatigue remains to be determined, it is probably influenced by dislocation of body fluids, exhaustion from shivering, and by pain in affected parts.

Fatigue in high altitudes has been known ever since man first chased his game up mountain slopes. Especially during the last war it appeared that the selection of pilots for military planes should take into account a tolerance for high altitudes. Following the war, the results of these tests were little used because operations above 15,000 feet were not common and because the development of methods for supplying oxygen appeared to solve the problem of anoxia or lack of oxygen. Now, however, combat planes may fly to 35,000 feet or above, reaching such extremely low atmospheric pressures that even pure oxygen may become inadequate. But fatigue arising from anoxia is not the only trial for the aviator. The oxygen mask, even under the most favorable conditions, is not comfortable and may become annoying even to the toughest pilot. He also may be subjected to low temperatures, to interference with vision by frost formation, to the handicap of bulky clothing, to ear discomfort and abdominal distress from changing pressure.

Two other conditions which may affect the pilot are pointed out by Capt. H. G. Armstrong in "Aviation Medicine": airsickness, "a condition occurring principally as a result of accelerations in aircraft flight, which is marked by nausea, vomiting, instinctive fear, pallor, sweating, vertigo and frustration," and aero-

embolism, "the disease produced by a rapid decrease in pressure below atmospheric pressure, such as may occur in aircraft flights to high altitude, and which is marked by the formation of nitrogen bubbles in the body tissues and fluids." While the selection of pilots eliminates persons who are subject to air sickness, this is not true of other members of the crew. If the multiple stimuli to which the aviator is subjected are too intense or too frequently repeated, a state of so-called chronic fatigue or of aeroneurosis may develop.

Fatigue experienced by the aviator has something in common with fatigue as seen in the factory workman. In each man the total energy turnover is relatively small, and yet each may be exhausted at the end of the day. Exhaustion in both cases clearly involves the nervous system as much if not more than the skeletal muscles. If the stimuli are sufficiently intense, there may be, through the sympathetic nervous system, interference with normal cardiac function and with gastro-intestinal function. Glandular hyperactivity, particularly of the adrenals, may produce identical physiologic responses in the frightened aviator, in the angry workman and in the harassed executive.

These types of fatigue may be grouped in one category, designated as the fatigue of activity. Another category is the fatigue of idleness. Physiologically, there is evidence to show that idleness breeds fatigue. Unused muscles deteriorate, and modern surgeons keep a broken bone in a cast no longer than necessary. The weakened state of convalescence depends to some extent on enforced inaction. Unnecessary prolongation of the period of immobilization weakens the inactive muscles.

Parents frequently believe athletic competition harmful to their children. Nature, however, has provided a safe-guard: the competitive spirit that leads young men to play to the point of collapse is not developed until late adolescence. Young boys play until they become tired; when play becomes unpleasant, they rest. There is evidence for this in laboratory experiments: young boys running on the treadmill will stop before their blood lactate has reached high levels. It is the young man of high school and college age who pushes himself to extreme limits.

An additional safeguard should be provided for all school-boy games: adequate medical supervision by a physician who has authority to determine who shall play. However, many schools do not provide effective medical supervision for their sports programs. As a result, young men who are not physically fit may be permitted to play and are sometimes injured as a consequence.

There is scant evidence for believing that high school and college sports, however fatiguing they may seem, have harmful effects on physically fit young men. Statistics given by Louis Dublin show clearly that college athletes have a greater life expectancy than the average for their class. Many young men have had the benefit of school and college programs of physical education and of training in ROTC units, but many more should have an opportunity in school and college to take part in outdoor sports. At Harvard University 90 per cent of the students participate in one sport or another, but in some colleges, and certainly in many high schools, the percentage is nearer 9 than 90. One of the most hopeful signs for America's future is the intense and widespread interest in outdoor sports, an interest that is leading to growing numbers of participants. Soft-ball, skiing and hockey are becoming national institutions for men and women alike.

With added years the enthusiast should turn to less strenuous sports. Man's physical capacity for maximum exertion is at its peak in his early 20s and declines thereafter. The athlete usually finds it difficult to face this fact but if he tempers his exercise to his capacity and occasionally consults his physician he need have no fear of over-exertion.

The fatigue experienced by the aviator may be a consequence of diverse stimuli of different intensities. In one instance perhaps anoxia is the predominant factor; in another, air sickness; in a third, cold. There is no simple solution for this problem: the best that can be done is to reduce discomforts to a minimum, select the toughest and most able young men and keep them at the highest possible level of physical fitness. Similarly, in industrial fatigue, every situation must be studied to determine the chief sources of fatigue and to seek to reduce them. Sometimes this is simple, as we have found in studies of heat cramps at Boulder Dam in 1932 and at Youngstown, Ohio, in 1934. Increasing the ingestion of salt by adding it to drinking water practically eliminated heat cramps and reduced the incidence of heat prostration.

Adaptation to high altitudes is similar to adaptation or training in all walks of life. The poise and grace of steel *(Continued on page 495)*

Guarding the Health of the STREET TRADE BOY

With over 80 services—cultural, social, educational, hygienic, recreational—the Burroughs Newsboys Foundation is helping street-trade boys help themselves by developing resourcefulness and independence

By VINSON STROHMAN

PERHAPS IT WAS having once been a newsboy myself that made me conscious of the matter, or maybe it was plain curiosity. At any rate I wanted to know what specific ailments the street-trade boy was heir to and what was being done to protect his health. I have seen newsboys carrying bundles of papers, bent nearly double under the load. I have seen them at dawn in rain and snow, going from house to house; seen them late at night in front of theaters and subway stations; seen them hustling in the push and pull of city

Field workers serve hot cocoa and doughnuts to hundreds of newsboys during the winter months.

traffic. I have seen shoe-shine boys kneeling on cold, wet pavements, their hands black with polish, their faces grimy and dirty. I knew there were many social agencies in the city of Boston but which one is looking after the health of the street-trade boy? My search was easily rewarded.

The Burroughs Newsboys Foundation has its quarters in a four story building in the heart of Beacon Hill. It is next to the Boston City Club and just around the corner from the State House. I climbed the stairs to the office of the medical director on the fourth floor, glimpsing boys at work and at play in the several rooms I passed. The medical director was glad to talk with me. "Occupational ailments of street-trade boys?" he said thoughtfully in reply to my question. "Can't say that there are any. Street-trade boys aren't different from non-working boys as far as health is concerned. However," he added, "bootblacks may be more prone to dermatitis of the face and hands, and some of our newsboys suffer from flat feet and faulty posture. But there's nothing odd about the nature of their complaints."

"What," I asked, "is the Foundation doing to guard and improve the health of its members?"

"Many things," was the reply. "The purpose of the Foundation is to bring health and happiness to boys who earn their living in street occupations. That is the motivation of our whole program. Our health program is a basic feature." He then gave me a step-by-step description of what is done for a boy when he becomes a member of the Foundation.

"Our medical clinic here," he said by way of introduction, "is only diagnostic in scope. As such, it is nevertheless unique among social agencies of this kind. When a boy joins the Foundation, he is given a foot-bath and shower in the new Charles Hayden Shower Room and a specimen of his urine is taken for analysis. He is then interviewed by our medical social worker who obtains the following information: number of persons in his family, their medical history, his health, sleeping and personal hygiene habits and other germane facts. Then he is sent down to our diagnostic clinic for a superficial eye and ear examination.

"The next thing is a dental examination. If the boy is in need of dental treatment, he is advised to go to the Harvard Dental School, where a special clinic for our members is maintained with 60 dentists and dental hygienists under direction of Dr. Leroy M. S. Miner, dean of the Harvard Dental School. This clinic is held every Tuesday night and we take the boys there by bus at no expense to themselves.

Burroughs newsboys get dental attention in a special clinic provided for them at Harvard's Dental School, Boston, Mass.

"Our staff physician then gives each boy a thorough physical examination from head to toe, checking carefully his height, weight, chest expansion, skeletal structure, nose and throat, heart, lungs, genitals, legs and feet, with particular attention to any complaints he may have.

"All this, I might add, takes place at one time. The urinalysis is made on the same night of the examination. In conclusion, a physical fitness test is given each boy in the gym. This consists of a test of his lung capacity by means of a spirometer, a test of his grip strength through an oval dynamometer, a test of the strength of the muscles of his back and legs, and an arm strength test by means of pushups and pullups. The results are correlated with the boy's age, height and weight to give his physical fitness index. Boys with a low physical fitness index are sent down to our physical education director for corrective exercises. Serious cases of flat feet or spinal curvature are referred to the hospital.

"That concludes the examination. If medical treatment is indicated, the boy is given an appointment with our medical social worker who visits his home, talks to his parents and refers the case to a private physician or to the hospital for treatment.

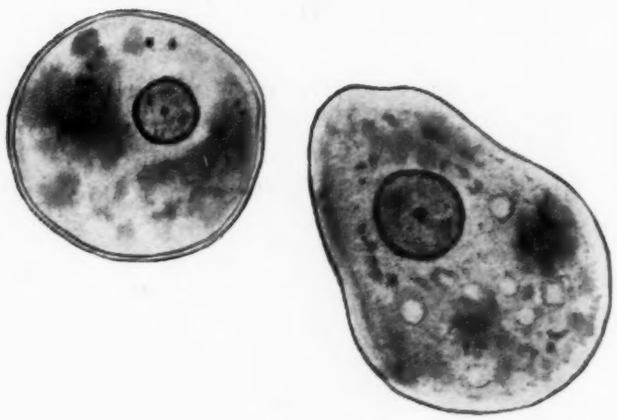
"During 1939, more than 900 boys were examined in our medical clinic. Of these, more than 300 were referred to the food clinic for health education and extra nourishment. Special findings revealed acne in 367 cases, congenital defects in 10, defective vision in 68, glandular dysfunction in 29, nasal obstruction in 77 and psychoneurosis in 21. Nine boys were found to have tuberculosis.

"Besides our food clinic and health education class to which parents are frequently invited, we also maintain a health education class at the Harvard Dental Clinic. Perhaps," the medical director concluded, "you'd like to see our program in action? I'll be glad to show you around."

It was an interesting and instructive experience. The Burroughs Newsboys Foundation is not simply a club but rather a home for boys in the deepest sense of the term. I saw the boys through the entire clinical routine, which is only one phase of the Foundation's program of 80 activities and services—in the new Charles Hayden Shower Room, where more than 15,000 showers have been taken to date; in the medical and dental examining rooms on the fourth floor; in the food clinic, where crackers, milk, fruit and other foods were being dispensed to *(Continued on page 472)*

The new Charles Hayden shower room—where more than 20,000 showers have already been taken—is giving health and cleanliness to street-traders.

SUBTLE



LIKE POLICE posting the warning, "criminal at large," public health authorities today are broadcasting an alarm for Endamoeba histolytica. This is no familiar germ or virus; it is an ameba, lowest form of animal life, and perhaps the most vicious of its kind. It has been getting away with murder for years.

It kills with a disease known as amebiasis. When it does not kill, it causes ill health which ranges from occasional attacks of "intestinal trouble" to serious, painful and debilitating chronic illness. Whether attacks are mild or acute, and no matter if the victim appears to have recovered completely, he remains a carrier, a menace to his family and—if his job involves food handling—to the public.

Between 5 and 10 per cent of people in the United States are infected. Amebiasis is difficult to diagnose or to treat. That is why hundreds of physicians are going back to school to study the disease, why laboratories are training bacteriologists in the special technics of recognizing the criminal ameba.

Never heard of amebiasis? Well, it is loosely called amebic dysentery. That recalls the scary episode of 1933, when an outbreak in Chicago spread as visitors to the Century of Progress Exposition scattered to their homes. That epidemic was much more startling than any of the headlines it evoked.

Prior to the Chicago outbreak, even the experts considered the disease primarily a tropical malady, endemic also in the Far East. Every traveler in the Orient was supposed to know enough to eat no raw fruits or vegetables and drink no unboiled water. There had been no extensive civilian epidemics in the United States. Then came the Chicago bombshell.

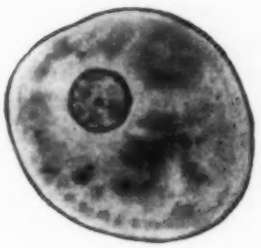
The circumstances surrounding that outbreak were curious. The majority of victims had one thing in common: they had eaten, visited, or worked in one or the other of two adjoining downtown hotels. Naturally, Board of Health investigators immediately suspected the kitchen workers. Many of them proved to be sufferers or carriers—34 per cent in Hotel A, 57 per cent in Hotel B. These employes were removed from contact with food handling. Still the epidemic spread.

Meanwhile more than 160,000 guests had come and gone from the two hotels, many of them returning to distant states and cities. The prompt and ingenious action of Chicago officials in their behalf is a bright chapter in

MURDERER

The tiny, vicious animalcule causing amebic dysentery is a tough customer. In the rural areas of one state at least 38 per cent of the inhabitants are infected. Its symptoms—intestinal discomfort, colicky pains, flatulence—are too often treated with home remedies

By LOIS MATTOX MILLER



the history of public health work. The Board of Health sent to each former guest a questionnaire, worded so as to elicit information without causing alarm. Had the visitor enjoyed his trip to the Fair? Was he courteously, hospitably received in Chicago? Were there any complaints or criticisms of prices or service? Had he developed any illness since leaving town? What were the symptoms?

Incomplete returns soon showed that the infection had spread from Chicago to 43 states, 3 Canadian provinces, and the Territory of Hawaii. These people, who still didn't know what ailed them, were urged to consult their doctors. Wherever possible, the doctors were reached by telephone and telegraph and warned to look for amebiasis.

The Chicago Board of Health got complete clinical reports on 1,215 of these out-of-town cases and found that 214 of them had been diagnosed and treated erroneously. The trouble was mistaken most frequently for colitis, cancer, or appendicitis. Death had occurred to 98 persons, 33 of them after operations!

When the food handlers proved to be a false clue, doctors and sanitary engineers tackled the theory of a water-borne infection. Chicago's water supply, one of the most scientifically controlled in the country, proved above suspicion. What then? Combing through the labyrinths of the two venerable hotels, the investigators solved the mystery. In several places, corrosion and leakage were evident where sewer lines crossed over pipes of the water supply. At another point some forgotten plumber years earlier had improvised a wooden plug and driven it into the soil trap in a sewer line; the plug had rotted and allowed polluted waste to drip down—into a water cooling tank directly below. Hotel A shared its drinking water system with Hotel B. The infectious amebae had convenient and free transportation to every room!

The Chicago outbreak created a national sensation, but then interest subsided. If they heard of it at all, people once more thought of amebic dysentery as a rare disease that afflicts Orientals and explorers who foolishly stop to drink from polluted rivers. Actually, the intestinal marauder continued to run rampant. There is impressive evidence that medical estimates of its prevalence are too conservative.

No one has ever examined a true cross section of the American people to determine the real prevalence of amebic infection; but five years ago Dr. Charles F. Craig, now editor of the *American Journal of Tropical Medicine*, did something that, statistically, serves the same purpose. He assembled a score of regional surveys (which showed as high an infection rate as 38 per cent among people in rural Tennessee, and a low of 4.5 per cent among undergraduates in an Eastern college) and averaged the results of the total of some 50,000 persons examined. His calculations

showed that 11.6 per cent of the American people are probably infected with amebiasis.

The United States Navy is used to dealing with the infection because navy personnel is constantly exposed to it in tropical or Far Eastern ports. In 1939, navy doctors began to examine enlisted men for amebiasis as they came to Panama, crossroads of the navy's world. The infection rate was found to be 9.5 per cent.

Among new recruits received at Norfolk fresh from civil life, nearly 11 per cent proved to be infected! In other words, a healthier-looking-than-average group of young civilians from all parts of the United States showed a greater prevalence of intestinal infection than men in the service, excepting those returned from Asiatic ports—where the rate was 26 per cent.

Of men newly enlisted from the Southeastern states, 14.6 per cent were infected. What the general population would show is anybody's guess—a rather frightening guess when you reflect that these young men were picked for physical fitness. Here and there communities are awakening to the situation, but by and large the trouble goes unrecognized.

"It is a curious fact," Dr. Thomas T. Mackie reminded an assembly of specialists at Duke University Hospital, "that amebiasis, which affects from 5 to 10 per cent of the population, should be largely unknown to, or ignored by, the great proportion of the medical public."

The reason is that the symptoms are flatulence, intestinal discomfort, colicky pains—disturbances lumped by laymen under the general head of "digestive upset" and all too frequently treated with home remedies.

When physicians do encounter a patient, they are often baffled. If they suspect amebiasis and send fecal specimens to a laboratory, few laboratories have men with the special training to recognize the dangerous ameba which looks so much like those normally present. Finally, many physicians assert that any drug powerful enough to kill the amebae poisons the patient.

This, the specialists say, is not true. Treatment is difficult, but quick and positive. There is no case of intestinal amebiasis, one specialist asserted, that cannot be cured in nine days. Dr. Francis M. Massie, of the Lexington Clinic, Kentucky, recently reminded doctors "that there is no single drug which will cure all cases, but that, by and large, the several drugs are sure to bring relief in more than 90 per cent of cases." And that, Dr. Massie adds, "is a high level of efficiency in the treatment of any disease."

True, the tiny, vicious animalcule that causes all the trouble is a tough customer. It does take an experienced laboratory technician to detect its presence. If the layman takes a look he merely sees a ridiculous "jellyfish" slithering across the illuminated slide, behaving like some fantastic creature in a Walt Disney cartoon. That is the intestinal marauder at its worst, wearing its working clothes. At other times, when passing from one victim to another, it travels encased in a shell-like cyst that is relatively as protective as any bullet-proof vest.

Thus armored, the Endamoeba histolytica is excreted by the amebiasis victim. There is considerable doubt that even chlorine or other purifiers in drinking water have any effect on it. It can remain frozen in an ice cube for seventy-two hours and emerge vigorous, potent, ready for action. Somehow, whether water borne or fly borne in food or drink, or traveling by personal contact, it eventually reaches the digestive system of some unsuspecting person. Then trouble begins.

The armored jacket is shed and the ameba divides into four "daughter" amebae. These multiplying parasites begin their systematic destruction of the tissues lining the intestines, and in time may reach the liver. The victim becomes ill, producing a variety of symptoms which may not include any of the dysentery reactions commonly associated with the amebic infection.

What can be done about it? Primarily the solution must begin with the people themselves. They must cease coddling their intestinal aches and pains with home remedies, and see the doctor in time. If it is amebiasis, the trouble may be more than they can grin and bear; it may also be a menace to those about them.

But the doctor also has an increased responsibility. Public health authorities insist that the physician must remind himself that amebiasis is prevalent. He must suspect it, take steps to determine its possible presence. He must remember that it can be detected and can be cured.

Finally, there is the competence of the laboratory, on whose findings the doctor is wholly dependent. Dr. Thomas Parran, Surgeon General of the United States Public Health Service, offers this opinion: *(Continued on page 488)*

The Common Wart

Warts are a minor malady, not harmful to general health. However, if they are uncomfortable or embarrassing, your doctor will be able to help you get rid of them

By R. H. RULISON

WARTS ARE SELDOM a serious ailment and important after-effects rarely occur. Warts do not lead to cancer, and unless they are on the sole of the foot, or over a knuckle, are hardly more than a nuisance. Although warts do not lead to cancer, sometimes cancer of the skin is mistaken for a wart, so that valuable time may be lost because of this misdiagnosis.

A wart is really an infection—not a general infection but a local infection—due to the entry of a virus into skin cells through some break in the skin surface. The infectious origin of warts and their peculiar structure separate them from many other skin blemishes. A mole, for example, is not a disease, but merely an abnormal number and arrangement of normal cells.

Because the common wart is due to infection, one wart is frequently followed by the development of others, often around the site of the original wart. Not only can you reinfect yourself, but you can also infect others. Warts are not easily acquired. There is little danger in shaking hands with a person who has warts. First, the wart must have a broken, oozing surface and, at the same time, there must be a fresh break in the skin of the uninfected person before infection can take place.

There are several varieties of warts different in appearance from the common wart. Sometimes a tiny splinter embedded in the skin causes a persistent lump which resembles a wart. Often, older people develop rough, thickened, brown spots on their skins which resemble warts but are not. Some kinds of moles closely simulate an ordinary wart: true warts are not always easily identified.

Ninety per cent of all warts fall in the same classification as the common wart, a pinhead to pea-sized, rounded elevation of the skin, due to an overgrowth of skin cells. Often these warts have rough tops, which may be skin colored, yellow, brown, gray, or almost black. At first, the wart is small, has the color of the surrounding skin, is only slightly elevated and has a smooth surface. After a few months, the surface becomes roughened and the wart rises from the surrounding area. Warts on the sole of the foot are not elevated above the skin level because of the pressure of body weight. Here, they push the underlying skin inward, causing pressure on nerves and often much pain.

Infection may be caused either by germs or by viruses (fluids which, so far as is known, do not contain germs but which can be recovered from diseased tissue and with which a particular disease can be caused in others). Although warts may occur on any part of the skin, they are most common on the hands, feet, knees, scalp, face and neck—those areas where cuts and scratches are most likely to occur. This distribution of warts supports the statement that they are an infection acquired through a break in the skin surface. It has been proved that warts can be transmitted by rubbing the freshly cut surface of a wart on newly scratched skin.

Warts are found on cattle, dogs and rabbits. Viruses have been recovered from the warty tissue of all of these animals, and new warts have been produced in others of the same species by injections of the virus. This has also been done in human beings. However, the virus which causes warts in one species has no effect

on another species: warts cannot be transmitted from animals to human beings. The common saying that warts come from handling toads and frogs is only folklore.

The age group of 16 to 20 years is the one in which warts are most common. But they may develop at any age, and are as frequently encountered on females as on males. Usually warts disappear, even without treatment, and the average duration of untreated warts is three years. However, it must be remembered that this is an average, not a promise that your warts will disappear within that time. Some warts have been known to last twenty-eight years.

Curious things happen in the disappearance of untreated warts: They may remain unchanged for many years but flatten and disappear within a few days, leaving no scar. Occasionally, some of the warts will disappear and the rest will remain. And sometimes the treatment of a few warts is followed by the disappearance of others which have had no treatment.

One patient had several warts on the sole of his foot and several more in a group below his knee. The warts on the foot were treated, while the treatment of the others was postponed. When the patient returned, three months later, the untreated warts near the knee had disappeared and the warts on the foot were still present. There is no satisfactory explanation for the disappearance of untreated warts.

Recovery from some diseases is followed by immunity, either temporary or permanent. For example, once having had chicken-pox, human beings are protected from a second attack. A careful study of wart histories indicates that about one half of those who recover from an attack of warts have another attack later in life. The period of freedom averages about twelve years and the second infection with warts lasts longer than the first. The investigation seems to indicate that if immunity does follow their disappearance, it is limited, not a lifetime protection.

Folklore regarding the treatment of warts goes back hundreds of years and some of the methods advised are entertaining. The most popular involves not merely the hoped for disappearance of warts, but their transfer to another person. It is said that this can be accomplished by touching each wart with a pebble, putting the pebbles in an old purse, and dropping the purse at a cross-roads where some disliked person will pass. If this person picks up the purse and touches the pebbles, the warts will leave the person having the warts and appear on the finder of the purse.

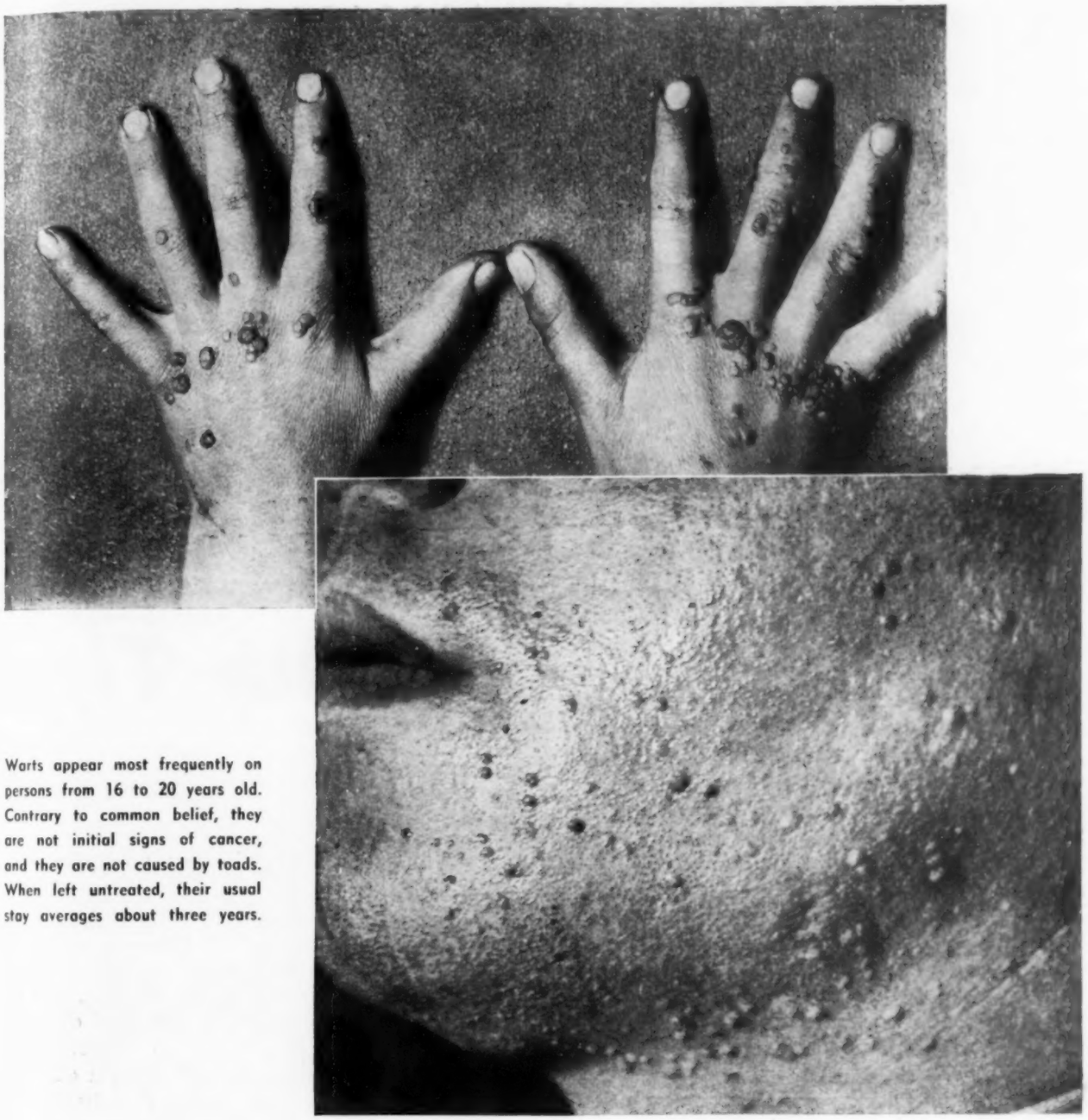
A long list of local applications is also offered. In this group are milk-weed juice, calendine juice, tobacco juice, salt pork rind, axle grease, dandelion juice, morning dew, lemon juice and vinegar. Almost everyone has heard of touching warts with raw meat, burying the meat and having the warts disappear as the buried meat rots. Sometimes stolen meat is said to be more effective. Another common method is the tying of knots in a string, one knot for each wart. Each knot must be tightened above but not around the wart. Burying the string makes the cure more certain.

However, while many of the folklore methods of treatment are harmless, some of them involve a real risk of unnecessary danger. In any one case it is impossible to say how long warts may persist. Because of this, many people embarrassed by warts seek medical treatment. Treatment is most likely to be satisfactory if given by a specialist in diseases of the skin. The specialist is equipped to give the kind of treatment best suited to the particular case and his experience makes possible a wise choice.

Physicians use a number of different treatments for warts, the choice of method depending on the number, location and the type of the warts. Some doctors are convinced that warts can be influenced by psychotherapy, and report a respectable percentage of cures by suggesting to the patient that his warts will disappear. But do not conclude that suggesting to a person that his warts are going to disappear is with or without effect. There are not enough accurate statistics to justify an opinion in either direction.

It is, however, certain that warts can be cured by removing or destroying all of the wart tissue. Surgical methods, including electric needles, are satisfactory, but they leave a raw surface which must be protected from infection. Furthermore, these methods leave some scar tissue, and when many warts are present, are time-consuming and sometimes impractical.

Another method of treatment is by the use of acids. Strong acids are dangerous and frequently cause more destruction than is planned, leaving sores which are slow in healing and later produce unsightly scarring. If the acid



Warts appear most frequently on persons from 16 to 20 years old. Contrary to common belief, they are not initial signs of cancer, and they are not caused by toads. When left untreated, their usual stay averages about three years.

is too mild, only the surface is affected and the wart promptly regrows. Chemical treatment of warts is best given by a doctor. When properly used, good results are obtained.

Other methods involve the injection into or around warts of various solutions. These are used to block off the blood supply or, through pressure, cause the death of the abnormal wart cells. Injection technics of various fluids into muscles or into veins have their advocates, and, as always happens in conditions which may disappear without treatment, favorable reports on all methods can be found.

Radium and x-rays are used with considerable but not uniform success. Such treatment should only be attempted by a skilled dermatologist, because damage can follow improper use of these methods. In large clinics for skin diseases, either x-rays or some form of electrosurgery is chosen for the treatment of most warts at the present time.

Warts are a minor malady and your general health will not be harmed if you do nothing about them. However, if they embarrass you, or are uncomfortable because of their location, your doctor can help you get rid of them.

Health Tips

"LET'S SEE. Tires okay. Oil and grease changed. Brakes tested. Headlights adjusted. Gas tank full. Baggage packed. I guess we're about ready to start."

"But wait! Have you had your health checked?"

"Health checked?" I never thought about that. What do I do?"

So many of us have lived in the sheltered safety of our modern towns and homes that we do not realize the possible dangers in less guarded parts of this country and foreign lands—places where sanitary and health inspectors never visit. A drink from a cool brook, fresh fruits from a roadside stand, hamburgers at that not-too-clean restaurant may be dangerous. Disease lurks in the little things and doesn't give second chances if "you didn't know."

However, by taking some simple precautionary measures before your trip, and observing a few equally simple rules on the way, you can go along carefree and lighthearted, and leave that specter of disease behind.

Health precautions fall into two groups: those that should be attended to before the vacation trip, and those that should be observed while on the way. They require no deviation from the normal way of living. In fact, most of these precautions are those that you practice daily in your normal home life. Vacation means off with responsibility and on with fun—and being sick is no fun.

Preventive measures to be taken before the trip concern two of the most ravaging yet easily controllable diseases, smallpox and typhoid fever.

Smallpox is a contagious disease, spread by person to person contact, or through contaminated articles such as clothes and dishes. It is generally more prevalent in the West; the Southwest and Mexico being the most dangerous foci. Some resistance to infection is afforded by intimate association with clinical cases, so that westerners going east have less to fear, comparatively, than easterners traveling west. However, the one sure way of becoming immune to smallpox is through vaccination.

Since some states, notably in the East, have compulsory smallpox vaccination, many people have been inoculated during childhood. The protective level of immunity in most cases, however, lasts only about five to seven years and then gradually falls off. Therefore, to be absolutely certain of protection, it is important to be revaccinated after the normal period of immunity has elapsed. The second inoculation usually provides immunity for the rest of one's life. No one, under any circumstances, should take a trip without at least one small-

on Your Trip

By ARTHUR LEVIN

pox vaccination, and preferably two. The high death rate and the pockmark after-effects certainly make vaccination infinitely worth while.

Typhoid fever, another ever present menace, is also easily avoided through vaccination. The typhoid bacillus causing the disease is passed from the body of persons either showing clinical symptoms of the disease, or persons who do not show any symptoms and yet harbor the bacteria. These latter are known as carriers. Typhoid carriers are more dangerous than criminals, because unknowingly and unknown they may contaminate everything they touch and cause hundreds of new cases each year. "Typhoid Mary," one of the most notorious of these carriers, was employed as a cook for several years and caused thousands of cases of typhoid fever before she was discovered. How many carriers exist along your vacation path is not a pleasant thought to contemplate. In addition, water contaminated by sewage, privies and cesspools is another source of infection. Milk as well as milk products also may be contaminated. Fresh fruits and vegetables offer additional dangerous possibilities. And flies may spread disease by carrying bacteria on their feet. The danger of this infection is so widespread that the safe and smart thing to do is to be vaccinated against typhoid.

Inoculations are given at weekly intervals and are usually three in number. Immunity results a week after the third inoculation. The protective level of this immunity lasts only about one year, and inoculations should be repeated before your vacation each year.

Vaccinations against typhoid fever are not as certain and absolute as those against smallpox, although they do lessen tremendously the possibility of contracting disease. But even after inoculation, the precautions during the trip should also be followed carefully. And, since it takes three weeks to become immunized to typhoid fever, the vacationer should plan sufficiently far ahead.

Along the way the three most dangerous sources of disease are, unfortunately, the three most important elements in our everyday life: water, milk and food. The great danger lies in the fact that they are so common, so taken for granted, that we never stop to think that they may be focal points of infection. The water, milk and foods we eat and drink along the way are usually not the same carefully treated and tested products we so casually use in our own kitchens. Caution, not casualness, should be the watchword on any trip, especially if your children are along.

Of the three, water is the most easily contaminated. At home, *(Continued on page 489)*

How to Nurse

WHAT A STRANGE PARADOX! The vast majority of physicians and public health workers are convinced of the superiority of breast over bottle-feeding. No authority has ever allowed himself to be quoted as against this consensus. An almost universal desire on the part of mothers is to nurse their babies—universal, that is, except for a comparatively small number of women who put social pleasures before the duties of motherhood. Why, then, is breast feeding not almost universal?

Mothers do not realize how important a part the physician plays in breast feeding. To be sure, the breast-fed baby may well require fewer medical visits than his bottle-fed brother. But if he is to remain breast-fed, he ought to be kept under the surveillance of his doctor at least during the first half year of his life. Otherwise, his mother's milk may suddenly cease to be an apparently inexhaustible fountain. He may find himself suddenly and unceremoniously switched from this comfortable situation of having all he wants of a

Your Baby

Mothers do not always recognize that vigorous nursing may be the best way of stimulating the return of the uterus to the size it was before pregnancy. Many persons who believe nursing is weakening are frequently surprised to find that it is restful, soothing and recuperative when the physician's instructions are followed

By FRANK HOWARD RICHARDSON

never-disagreeing food supply, to a substitute feeding that is far from desirable.

The doctor is essential before the baby arrives, if breast feeding is to have its best chance of lasting as long as it is desirable. Most mothers now realize the importance of this modern medical service known as prenatal care, but not all of them realize that it is highly important from the point of view of insuring breast feeding for their babies, as well as a normal delivery and recuperative period for themselves.

During these months preceding the birth of the baby, the doctor will examine her urine, ascertain her blood pressure, direct her diet, advise her about clothing, exercise and recreations. In addition, he will take measurements to determine whether the baby can be born safely without surgical help, and he will make sure of the baby's position.

The physician will also give the expectant mother advice about the important task of taking intelligent care of her breasts, so that she will have no trouble nursing. Difficulty in nursing sometimes develops when this care has been omitted. He will advise her about supporting her breasts if they become heavy during the later weeks of pregnancy, and he will show her how to relieve the discomfort that this would otherwise cause her, either by demonstrating a supporting bandage, or by prescribing a properly fitted brassiere. He will show her how to avoid pressure by wearing proper clothing.

He will show her how and why the nipples should be washed daily with soap and water, followed by an application of petrolatum. He will explain the necessity of thoroughly scrubbing her hands before touching the nipples. If they are inverted so that it would be difficult for the baby to nurse properly, he will show her how she can draw them out gently by grasping each one between thumb and forefinger, pulling it forward, and holding it in this position for two or three minutes. If she will do this twice a day, drawing out the nipple three or four times at each session, she can usually overcome even an inversion that would have made nursing impossible, had she waited until the baby was born.

If he finds that the nipples need toughening to withstand severe treatment from the gums, lips and tongue of an energetic breast-fed baby, he will suggest proper treatment for them.

After the baby arrives, the doctor will decide the nature and the quantity of the fluid the baby is to receive during the two or three days preceding the appearance of the true milk, and how often the infant is to be placed at the breast. More important still, the physician will give relief from the discomfort due to the flow of milk that follows the secretion of colostrum which was present at birth. But the doctor will give it in a way that will conserve this precious secretion at a time when injudicious advice may destroy it.

He will assure her that if she is willing to undergo the slight discomfort for a day or two,

Nature will quickly adjust the supply to the baby's needs, and will automatically check wasteful oversupply. If, however, she listens to the harmful advice so often volunteered by uninformed, meddlesome friends and neighbors, she will quickly terminate her lactation period, and find her baby dependent on artificial feedings for his nourishment.

Your physician will know whether the baby should be breast-fed every three hours or every four, or whether, because of frailness or prematurity, he should have an even shorter interval between meals. He will also determine whether the same intervals shall be observed during the night; whether they shall be longer than during the day; or whether it is more important for the mother to have an uninterrupted night's rest, in which case a substitute feeding may be prescribed and given the baby instead of one nursing.

He will show her how to persuade the baby to nurse when the milk commences—not an easy task sometimes. The doctor will not allow the nursing to be hurried or slighted through some mistaken notion that a nursing period should occupy some fixed time, like the out-dated but once sacrosanct twenty minutes that proved far too brief for many a reluctant beginner. Some tact and patience may be required to begin the nursing process, but no concern need be felt if the baby doesn't get down to business for several minutes. The doctor will reassure an anxious, nervous mother at this time as no one else can.

The doctor will also decide whether a mother has a milk supply sufficient to justify her in attempting to nurse her baby on one breast at a feeding, or whether, as is more commonly the case, both breasts will be required. If both breasts are found to be necessary, he will instruct her to begin each feeding with the alternate breast. He will show her how to make sure that the first is completely emptied, if she is in doubt, by means of manual expression. If one breast is not completely emptied at least once every six or eight hours, the chances are that the supply will soon decrease to such an extent that premature weaning will have to be resorted to.

The doctor will explain to a nursing mother that while some babies fall asleep and stop nursing, and have to be waked before resuming, others do their best nursing while apparently sound asleep. He will show her how best to wake a youngster who stops nursing when he drops off to sleep.

This is accomplished by performing manual expression while the baby is at the breast. That is, the milk is expressed directly into his mouth as he lies asleep. When the baby finds his throat filled with milk, he at once starts to swallow. This begins the nursing reflex, causing him to resume his meal just as well as if he had been shaken or spanked awake.

Mothers do not always realize, unless the doctor points it out to them, that vigorous nursing which causes rather unpleasant abdominal contractions may be the best way of stimulating the return of the uterus to the size it was before pregnancy. Those persons who think that nursing is weakening, or constitutes a strain on them or a drain on the system, are frequently surprised when they are told that it is restful, soothing and recuperative in its effects on the mother if it is carried out according to the doctor's instructions.

Within recent years psychologists have discovered that the breast-fed baby gets an important emotional start based on the fondling and sense of well-being concomitant with nursing that the bottle-fed baby lacks. If ever Americans and their children needed emotional stability, it is today. And perhaps future generations will require courage and stability even more in the difficult years that lie ahead. If anything can help our children preserve and defend their heritage of freedom and free institutions, we can all well afford to be for it. Each one of us must be willing to do his part: The contribution that the mother and the doctor can make in conserving the health and the emotional well-being and stability of the generation that will succeed us and take over our burdens is incalculable.

Maternity Ward

If the gateway in is pain,
Joy's the gateway out again.
And in between each sweet day fills
With contemplating miracles,
Attended by kind angels dressed
Like Holland dolls in starchy best.
The walls are nearly pushed aside
With so much love and so much pride
Of fathers who must view, alas,
Their orchid offspring under glass.

By VIRGINIA BRASIER

The Newer Concepts of Meat in Nutrition

Meat...
and the Reducing Diet

Under the careful supervision of your physician, a safe reducing diet can be planned which satisfies hunger and which also leads to loss in weight. Weight reduction is largely a matter of causing the body to burn its own fat without burning up the other tissues.

Proteins are perhaps one of the most important components of the reducing diet. A definite quantity of proteins is needed every day for tissue maintenance and repair, regardless of the amount of physical exertion. If the diet does not contain enough proteins, the body will use up its own, and weakness and loss of physical endurance will follow. Minerals and vitamins are important too, and the diet must supply enough of them to guard against deficiencies.

Lean meat is a favorite component of the reducing diet. It provides an abundance of high quality proteins, important minerals (iron, copper, phosphorus), and the B vitamins thiamine (B_1), riboflavin (B_2), and the anti-pellagra vitamin. Lean meat is low in caloric value. Meat, unlike many other components of the reducing diet, is "filling," and gives a lasting feeling of satisfaction which aids in overcoming the usual craving for food between meals.

The Seal of Acceptance denotes that the statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

ACCEPTED AMERICAN MEDICAL ASSN. Council on Foods

American Meat Institute
CHICAGO

This defense program begins in your home

TODAY'S DOCTORS know many ways to make life safer for youngsters, many ways to defend them against once deadly diseases.

The defense of children must, however, begin in the home—with parents giving doctors the opportunity to use their valuable knowledge of preventive medicine.

By the simple procedure of a successful vaccination, for instance, your doctor can offer protection to a child as young as 6 months against *smallpox*. Wherever vaccination is the rule today, smallpox is practically unknown. In fact, in some States, where vaccination is an accepted health measure, there hasn't been a case of smallpox in years. Only in those States where universal vaccination is still neglected or resisted does smallpox continue to smoulder.

This is only one of many ways in which modern preventive medicine can make life safer for our youngsters.

Other Defenses For The Young

Diphtheria, too, can be stamped out—if every child begins immunization treatments at 6 to 9 months of age. Vaccination against *typhoid fever* ordinarily gives dependable protection for a year or more. In recent years, *whooping cough* vaccines have been developed, and in many cases have proved helpful. To children who have been exposed to *measles*, serums offer protection and may lessen the severity of an actual attack. Serum may also be called upon for use in treatment of severe cases of *scarlet fever*.

How To Know What To Do

Your doctor, of course, is the one to decide which protective measures are advisable for your child and when is the best time to make use of them.

Ask his advice, and rely on it—for the greater security of those you love.

To help parents protect their children, Metropolitan has prepared booklets on all of the diseases mentioned above. They are yours for the asking. Perhaps booklet 61-Z, "Whooping Cough," or 61-ZA, "Measles," may be of special value to you now.

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Metropolitan Life Insurance Company

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An interesting 10-minute Technicolor movie on food and health—"PROOF OF THE PUDDING"—has been produced by Metropolitan in co-operation with the United States Public Health Service. It is a contribution to national nutrition education. See it when it comes to your neighborhood.

The Health of the Street Trade Boy

(Continued from page 459)

underweight boys; at the Harvard Dental School and in the Foundation's gym. The nutritionist told me: "I don't urge the boys to come to my food clinic and health education class. They come voluntarily and are anxious to learn."

I now had the answer to my original question. In parting, however, the medical director added the following information: "We have many services at the Foundation which, though not strictly medical in nature, tend to keep our boys in good health. For example, in the shoe-repairing class our boys may have their wornout shoes repaired free of charge, thus possibly obviating the dangers connected with wet feet during the winter months. Moreover, particularly on cold days, our field workers drive about the city passing out hot cocoa and doughnuts to newsboys and other street traders. If they are insufficiently dressed, mittens and other articles of warm clothing are given to them. Our cooking class is an object lesson to all who visit it in the preparation of wholesome food and balanced diets. We also maintain a summer health resort at Agassiz Village in West Poland, Maine, to which members of the Foundation may go for their vacations. There, underweight boys are given extra meals each day in the Frances Stern Club, named after Frances Stern, the well-known nutritionist of the Boston Dispensary. Free hospitalization is provided when necessary and excellent food and care are supplied. Indeed, the entire program of Agassiz Village with its many opportunities for creative activity and play is designed to build up the physical and mental health of the street-trade boy. Incidentally, the Village is open to boys from all the social agencies of Boston."

Recently I learned that 23 members of the Burroughs Newsboys Foundation volunteered for service with the United States Army and all met the health requirements with high scores. This, obviously, speaks eloquently for the results of the Foundation in guarding the health of its street-trade boys.

A. M. A. Broadcasts from Cleveland

Doctors At Work, the successful story of a fictitious but typical young doctor, Tom Riggs, will close with a broadcast coordinated with the annual scientific meeting of the American Medical Association at Cleveland, Ohio. The meeting is scheduled from June 2nd to 6th and the closing broadcast of *Doctors At Work* is 10:30 p. m. Eastern Daylight Saving Time, Wednesday, June 4. For communities not on Daylight Saving Time, the broadcast will be heard one hour earlier.

Interesting things will happen to Tom Riggs and Alice Adams, and useful medical information will be part of the broadcasts as always.

In addition, the following schedule of network and Cleveland station broadcasts has been arranged. Network broadcasts will be heard on a nation-wide basis, while broadcasts on Cleveland stations will be heard in many instances throughout a large part of the north central states. All network broadcasts are scheduled as of Eastern Daylight Saving Time. Cleveland local broadcasts are scheduled on Cleveland or Eastern Standard Time.

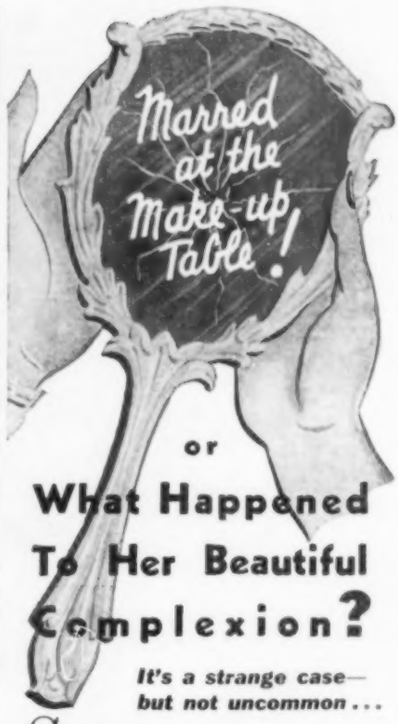
In some instances it has not been possible to obtain definite time schedules in time for HYGEIA publication. Local newspapers, however, will carry announcements of the network talks. Talks scheduled on station WBOE are on a special short-wave frequency for schools in Cleveland and vicinity.

STATION	SPEAKER	SUBJECT	DATE AND TIME
NBC-WTAM	Dr. N. B. Van Etten New York	Medical Progress and National Defense	
WTAM	Dr. Lowell S. Selling Detroit	Psychology of Traffic Offenses	
WTAM	Dr. John D. Currence New York	Arthritis	
NBC-Blue	Dr. W. W. Bauer Chicago	Convention News	June 5
WHK	Dr. M. S. White Randolph Field, Texas	Effects of Flying	June 3 11:15-11:30 a. m.
WHK	Dr. J. West Mitchell Sewickley, Pa.	Diabetes	June 5 11:15-11:30 a. m.
CBS-WGAR	Dr. Frank H. Lahey Boston	Progress in Medicine and Surgery	June 4 10:15-10:30 p. m.
CBS-WGAR	Dr. W. W. Bauer Chicago	Science Service Program	June 5
WGAR	Dr. G. C. Penberthy Detroit	Treatment of Burns	June 3
WGAB	Dr. Gordon B. New Rochester, Minn.	Treatment of Face Injuries	June 5
WBOE	Dr. Sara M. Jordan Boston	Constipation and Laxatives	
WBOE	Dr. M. E. Obermayer Chicago	Skin and Adolescence	
WCLE	Dr. W. C. Alvarez Rochester, Minn.	Food Allergies	June 4 1:00-1:15 p.m.
WCLE	Dr. G. Wilse Robinson, Jr. Kansas City, Mo.	Old Age	June 3 1:15-1:30 p.m.

CHRONIC SINUS INFECTION

A nasal spray of the sodium salt of sulfathiazole, one of the derivatives of sulfanilamide, was found to bring greater relief from the symptoms of chronic sinus infection than any other preparation used, Frederick Myles Turnbull, Los Angeles, reports in *The Journal of the American Medical Association.*

Of the 47 patients on whom the spray was used, 40 reported definite improvement and relief of symptoms. On 4 of the remaining patients the author has no report; of the 3 reporting no improvement, 2 had hay fever and one was fighting an influenza infection but now is showing improvement. An increase in drainage was reported by 20 of the 40 patients with definite relief of such symptoms as congestion, fulness, heaviness and pressure headaches and also an opening of the nasal passages.



or

What Happened To Her Beautiful Complexion?

It's a strange case—but not uncommon . . .

She had the best of everything, as far as grooming went—even consulted her doctor about her complexion and diet. Then—when "make-up time" came, she spoiled it all by using a hit-or-miss assortment of beauty aids, *one* of which was causiug irritation, and thereby marring the results of her beauty ritual. If your skin is sensitive why not give it the protection of Marcelle Hypo-Allergenic Cosmetics? These fine beauty aids are free of known irritating substances.

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You will want to know the full details about these cosmetics which are free of known irritating substances and still are pleasing beauty aids.

● A folder called "How to Guard and Enhance Your Beauty" is yours for the asking. It contains a make-up chart, full price list of Marcelle Hypo-Allergenic Cosmetics and outlines of special care for Dry Skin and Oily Skin. For samples of Marcelle face powder in your shade and skin lubricating cream send 10c to cover mailing. Use coupon below.

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H-6-41

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More than thirty outstanding authorities in the fields of medicine, pediatrics, chemistry, biology and nutrition have given their best thought to the compilation of this book. Being technical, it obviously is not "for light reading", but will prove of interest and value to dietitians, nurses, teachers of home economics and health, and all scientific-minded persons who take their vitamins seriously.

PARTIAL TABLE OF CONTENTS

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Chemistry, Physiology, Pathology and Therapeutics; Methods of Assay and Food Sources; Requirements.

Vitamin B
Complex: Thiamin (Vitamin B_1); Riboflavin—Physiology, Pathology; Pellagra.

Vitamin C
Deficiency; Dietary Sources; Requirements; Pharmacology and Therapeutics.

Vitamin D
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Vitamin E and Other Factors

637 pages, 8½ x 5½ inches. Red imitation leather binding. Price $1.50

AMERICAN MEDICAL ASSOCIATION
535 N. Dearborn St., Dept. V. Chicago

Defense Gardens

Fresh vegetables are a highly important item in the diet of adults and children

UNDER ANY circumstances a home vegetable garden is a good thing. Under conditions of a national emergency, it may mark the difference between success and failure in nutrition. Throughout the nation home vegetable gardens are being cultivated for defense. Before many weeks the crops will be harvested. Then we shall know more about this meritorious project.

During the first World War many small vegetable gardens were planted. Lawns were transformed into potato patches. Communities joined in the project of cultivating vacant lots. In their zeal, people plowed up sections of golf courses, destroyed flower beds and made use of park areas for the planting of vegetable seeds. Boys of high school age were organized to help work on farms. The emphasis then was on quantity. The slogan on everybody's lips was "Food will win the war."

Today the emphasis is on nutritional quality. All foods are important, but some foods are more valuable than others. Investigators in nutrition have shown during the last twenty years that the green leafy and yellow vegetables in particular are "protective foods."

During the last war it was erroneously believed that the value of foods could be measured in terms of heat units or calories. Many vegetables low in caloric value were considered nonessential luxuries. Professors Osborne and Mendel of Yale University, however, showed later that foods like spinach and watercress were unusually rich in vitamin A activity, even though they were low in fat. These vegetables contain carotene, a yellow pigment which is converted by the body into the vitamin A so necessary for health.

A recent article in Nature, a British periodical, calls attention to the food value of the carrot. It is estimated that about 50 grams of carrots would be needed to supply the daily provitamin A requirements of the adult. If the carrot were to supply only half the total carotene requirements, about an ounce per capita per day would be needed. This is equivalent to about 400,000 tons annually for the "whole population" of Great Britain without allowing for wastages in distribution and cooking.

Through the agricultural experiment stations of the various states, information may be secured about the growing of crops in each community. At the Wisconsin Experiment Station, Professors James G. Moore and O. B. Combs have worked out the details of a home garden that should supply the vegetable requirements of a family of four or five persons for a year. The instructions apply particularly to conditions prevailing in Wisconsin, but many of their recommendations are of general interest. It is estimated that the amount of space necessary for the entire garden is 60 by 76 feet. If the area is fenced, the width should be increased slightly to permit rows 60 feet long. A small portion of the garden may be devoted to perennial plants such as asparagus, rhubarb and perennial onions. The annual garden provides for two plantings of peas, four of green string beans, three of corn, two of spinach, three of lettuce and three of radishes. Both early and late varieties of beets, carrots and cabbage are included. The other vegetables are parsnips, beets, onions, chard, peppers, Chinese cabbage, rutabagas, broccoli, cucumbers, tomatoes, squash and pumpkins. The estimated cost of plants for the perennial garden is $5. Seed for the annual garden would cost an equal amount. Provision also must be made for a small amount of insecticide in order to enable the home gardener to wage war with the insects.

These wholesome, fine-flavored strained foods give protection to your baby!

Doctors recommend Heinz Strained Foods prepared with painstaking care according to Heinz 72-year quality standards!

MOTHERS who insist on Heinz Strained Foods have the great satisfaction of knowing their babies are getting wholesome, nourishing meals. Since 1869 the House of Heinz has prepared foods with patience and skill!

Heinz 14 Strained Foods *and* the special enamel-lined tins in which they're vacuum-packed are constantly checked and tested for excellence. Give *your* baby strained foods bearing the famous keystone label. They're wonderfully rich in flavor and color—and important vitamins and minerals are retained in high degree!

THESE TWO SEALS MEAN PROTECTION FOR YOUR BABY

FOUR-POINT PROTECTION
AT NO EXTRA COST!

1. VITAMINS AND MINERALS are preserved in high degree by scientifically cooking finest-grade fruits and vegetables—vacuum-packing them in enamel-lined tins. Quality is carefully controlled.

2. THE MOST MODERN cooking and packing methods have been developed by Heinz specialists in Mellon Institute of Industrial Research.

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HEINZ STRAINED FOODS GIVE
4-Point Protection
FOR BABY'S DIET

Heinz STRAINED FOODS

P.S. Serve Your Toddler HEINZ JUNIOR FOODS—12 Highly Nutritive, Unstrained Dishes Carefully Prepared To Meet The Needs Of Strained-Food Graduates.

No amount of family pressure will make your daughter lose weight if she is not completely sold on the idea of counting her own calories.

Reducing the Adolescent

By REGINA J. WOODY

"CAN MY DAUGHTER reduce safely?" Many an anxious mother of a 170 pound, 16 year old girl has put that question to her physician with fear and trembling. And yet the answer is an unqualified "yes." She can reduce safely, if she wants to. But no amount of pressure from the family can make her lose a single pound, unless she is completely sold on the idea herself.

Reducing the adolescent safely and sanely is a lot harder than reducing an adult, for overweight adolescents are usually easy-going, fun-loving young people, with enormous appetites for hamburgers, fudge sundaes and chocolate creams, sandwiched in between bounteous meals. Confronted with the onerous job of counting calories, of eating spinach and a slice of lean roast beef for dinner, instead of a mountain of mashed potatoes and gravy, buttered green peas, hot biscuits and sweet potatoe pie, she is almost sure to quail visibly. As for determination, chances are she hasn't an ounce in body or soul.

In reality, reducing, because it means counting calories, is so entirely up to the girl desiring to reduce that it is far better if you, as a mother, stay out of the picture and let your daughter take the initiative. Let her go alone to her doctor for the physical examination necessary before her bout of weight reducing. But pave the way for her by a preliminary visit to make sure there is no reason why she should not reduce. Then let her hear from the doctor's own lips that diet and exercise are her salvation. Let him explain calories to her and let him give her the name of a book on diet for reference use. Let him

tell her how far to walk each day, how much to eat, what exercise she needs, and whatever else he wants her to do. It would be wasted breath if you told her, for it isn't spectacular enough to be interesting. It's just plain, common sense.

No doubt she has been used to eating a large excess of calories each day—exactly what she wanted in the way of food. If she hadn't, she wouldn't be so fat. It's trite to say that her stomach has stretched so that she must fill it with a lot of food to be comfortable, nevertheless it is true. That's why she must learn to choose her reducing foods herself and count her own calories. If you try to do it for her, she'll eat too much at every meal she takes away from home, or faint from eating too little in the lunchroom at school. If you try to count for her, she'll either sneak calories or avoid them. But a couple of hundred calories one way or the other will either help or hinder reducing, keep her safely healthy, or let her bog down into ill health.

Serious words those, but reducing is a serious business, particularly when a girl is growing. Properly done, figures slim down, fleshy rubber tires turn into wiry muscles, piano legs grow slender and symmetrical, acne clears up, skin becomes smooth and glowing, elimination improves, and she begins to look like a model.

Counting calories is dull, but spending calories wisely, to feed bones and teeth, to increase ability and to acquire glamor, usually proves an interesting assignment. To get the most out of the right foods, which, when counted, will total a specified number of calories a day is stimulating rather than stodgy.

A guiding hand is necessary, a clear knowledge of vitamins, minerals, and protein and carbohydrate calories must be yours if you want to help rather than hinder. Don't let your daughter attempt to reduce on a "fad" diet under any circumstances. Lamb chop and pineapple, skim milk and banana, steak and grapefruit three times a day for a few weeks will be far more likely to make her sick in bed than slim on her feet. Cathartics, drugs or emetics—they all have their staunch adherents—are even more danger-

"Enriched Bread"

AND

THE ARMOR OF RUGGED HEALTH

GOOD health depends largely upon the nature of your daily diet. Without the right food, rugged health is impossible.

This is the vital message of the great modern science of nutrition.

The right food gives you—sufficient calories for energy needs—good proteins for body building—an adequate supply of necessary vitamins and minerals.

A well-constructed daily diet helps you to put on the armor of rugged health.

Enriched Bread is a nourishing food that belongs in your armory of health. Because—this new white bread is enriched with vitamins and minerals natural to whole wheat.

Enriched with:

Vitamin B_1 (thiamine)—frequently deficient in American diets—the vitamin required for normal appetite, normal intestinal activity, normal function of the nervous system, and for the best use of carbohydrate foods.

Another B vitamin—Nicotinic Acid. The vitamin that aids in the prevention of pellagra.

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Enriched Bread made with the usual milk solids is also a good source of vitamin B_2 (riboflavin), and of calcium.

Here, then, is armor for rugged health. Bread, one of our best and cheapest sources of essential food-energy. Now enriched with precious vitamins and food-minerals.

The Baker is the armorer and the oven is his forge.

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Naturally Sweet
NO SUGAR ADDED
CHURCH'S GRAPE JUICE
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For the Overweight
OBESITY—Campaign Against Corpulence, Food After Forty, Waist-Lines and Life-Lines, Some Obesity "Cures" and Treatments.
48 pages.. 15 cents

For the Underweight
HOW TO GAIN WEIGHT
Advice by LAURA A. MILLER on two workable ways of putting on pounds.
8 pages . . 10 cents
AMERICAN MEDICAL ASSOCIATION
535 North Dearborn Street, Chicago

ous to the over-weight girl than to her over-stuffed mother, for the girl in her zeal for results may actually be serious in their use, whereas most adults who fall for fads may fall from grace equally rapidly when faced by the desire for a delicious fudge sundae.

The day your daughter decides to start her diet, hand her a small, ruled notebook, in the back of which you have provided a simple calory table of the foods she will partake of more or less regularly. As a warning, list one chocolate—100 calories. One ice cream soda—400 calories. One fudge sundae with nuts and whipped cream—700 calories. A pair of scales weighing in grams is the ideal of the dieting devotee, but a small letter scale with a platform which will weigh portions of food in ounces will do almost as well, until she can estimate accurately what a hundred calory portion of food looks like. Don't forget that butter can add a hundred calories to a portion of spinach, and that it must be counted if it is on the spinach. Your daughter should weigh herself at regular intervals and keep a faithful record of her weight. Constant, slow reduction is what she is aiming at, not sudden drops, with equally sudden rises. Ask her to write down in her little book every mouthful of food she eats, and see that she gives it an honest calory rating. After all, some people can reduce on 1,500 calories a day, while others must get down to 1,000 or possibly even less. You won't be absolutely sure what her reducing diet is until you try it out on her. If she reduces too fast on 950 calories, for example, she may be overestimating the amount she is eating. But if she doesn't lose an ounce, she's eating more calories than she is willing to admit. Every night the calories she has eaten should be totalled. As the calory intake, the kind of food eaten and her weight for the day, is on every page of her little book, it is almost impossible for her to reduce too fast without your noting it, for her to eliminate important protective foods, or to continue dieting past a sensible weight. If you live near your doctor, let her go to him frequently for an interview and examination.

If she has a cold, with fever, increase her diet as many calories as the doctor orders, stressing fruit juices, eggs, milk and the protein of boiled chicken or other easily digestible lean meat, simply cooked, as a safety factor. Hot tea with lemon and fat-free bouillon can be taken between meals, and need not be counted calorically.

Ordinarily, no matter what reducing calory count you start with, you'll end up with about 1,000 to 1,500 as the most she can eat and still reduce. And once you find out how little food this is, you will realize that if you insist on her trying to reduce she must have a will like a mule and your own heart must be stony. It's going to be hard to make a delicious chocolate cake with seven minute icing standing in beautiful peaks on it, and then refuse an adored child the smallest bite. I know, I've done it. Giving her her meals on a tray will prevent brothers and sisters from razzing her, if yours is a family addicted to teasing. Reading a book and listening to the radio in her own room also helps to avoid the temptations and aggravations of the dining room and the family's 1,000 calory meals.

The musts on an adolescent girl's diet list are three glasses of milk a day, amounting to 275 calories if skim milk is used; one lean chop, meat pat, piece of steak or sliced lean meat, which will add another 200 calories; and one egg, which, even if small, will total about 75 calories. These are staple musts. To fill in and to fill up she must eat vegetables and fruit by the bushel. Butter, and fats of all kinds, sugar, bread, and potatoes are strictly limited, cake, pastry or other sweets are not allowed. Vegetables should be served without butter and fruits without added sugar. A sample day's menu is:

Breakfast

1 half grapefruit
1 boiled egg
1 glass of milk
1 slice of bread (whole wheat or "enriched")
½ pat butter

Lunch

Raw vegetable or fruit salad. No oil dressing
1 glass of milk
1 slice of bread or toast (whole wheat or "enriched")
½ pat butter
Plain gelatin or fresh fruit for dessert

Dinner

1 cup of fat-free bouillon
1 lean chop, steak, or other lean meat (remove all visible fat)
1 serving (about ½ cup) of spinach, broccoli, kale, cabbage, tomatoes, string beans or cauliflower. No butter
1 serving of another vegetable such as squash, turnips, carrots, beets or onions. No butter
1 small baked potato or 1 slice of bread (whole wheat or "enriched") and ½ pat butter
Plain custard, stewed fruit or gelatin for dessert

That is all. Peas, lima beans and corn must be used sparingly: They are richer in calories than most other vegetables. It won't take much counting to see that in a diet restricted to 1,500 calories or less there is no room for doughnuts, hot biscuits, fried potatoes, waffles or chocolate cake. Indeed, there isn't room for much bread and butter either, but those few calories she has to spend, after having consumed the necessary proteins, carbohydrates, minerals and vitamins, must go for bulky foods which help stave off the pangs of hunger and help keep the intestinal tract functioning normally.

Whether she likes salad, vegetables or milk makes no difference, she must eat them if she desires to reduce safely. Food pleasures go by the board for food safety. The adolescent girl must be convinced of the necessity of eating for health as well as for the slimming process, for, even as she is reducing, she is growing, and she must provide the necessary material for bone, blood and muscle. She can't eat 950 calories of Lady Baltimore cake and call it a day. She must eat so many calories of good quality protein, and minimum amounts of fat, and carbohydrates. She must have all her minerals and vitamins, too. Even the best of reducing diets is apt to be low in vitamins, particularly thiamine and others of the so-called B complex group. Your doctor probably will prescribe additional amounts of one or more vitamins in concentrated form. However, she should obtain as large a proportion as possible from the diet itself, for she needs the bulk that the vitamin foods provide.

Elimination is never a problem if enough roughage is eaten, but a small dose of magnesia or mineral oil will help when it seems neces-

FAMOUS WORDS OF ADVICE—

1. "Leave well enough alone!"

2. "Don't burn your bridges behind you!"

3. "Do unto others as you would be done by!"

4. "DRINK POSTUM, INSTEAD!"

SOMEDAY, YOUR DOCTOR might say to you, "No coffee for you from now on." If he did, you might think it would be a mighty tough edict to follow.

But, as a matter of fact, it isn't so hard to do without coffee. Just do what many others are doing, today—what so many doctors advise—"Drink Postum, instead!"

For—after a few days of drinking Postum, you'll find that its downright goodness and heart-warming delicious flavor make it as pleasant a drink as coffee ever was. Proof: millions of American users have made Postum their favorite hot mealtime drink.

And you can be sure that safe, satisfying Postum contains *no caffein*—just the distinctive flavor of choice, wholesome whole wheat and wheat bran, roasted and slightly sweetened.

Very economical and easy to fix!

Postum costs less than ½¢ a cup. It comes in two easy-to-prepare forms: Postum Cereal, brewed like coffee; and Instant Postum, made *instantly* in the cup. A product of General Foods.

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ASK YOUR DOCTOR ABOUT POSTUM

sary. However, mineral oil and particularly salad dressings containing mineral oil should be used sparingly because of possible interference with absorption of carotene, the precursor of vitamin A, found largely in green, leafy and yellow vegetables. A girl must remember that eating between meals provides as many calories as eating at table does, and she will be doomed to disappointment if she eats additional food, for no loss will appear on the scales and her hip control will be by girdle instead of will power.

Exercise is as important as the correct food intake but, if she works hard at it, ten minutes night and morning will be enough. A lot of difficult exercises aren't necessary. The following three exercises will do the trick, but they must be done vigorously, with the intention of producing copious perspiration, rather than graceful gyrations.

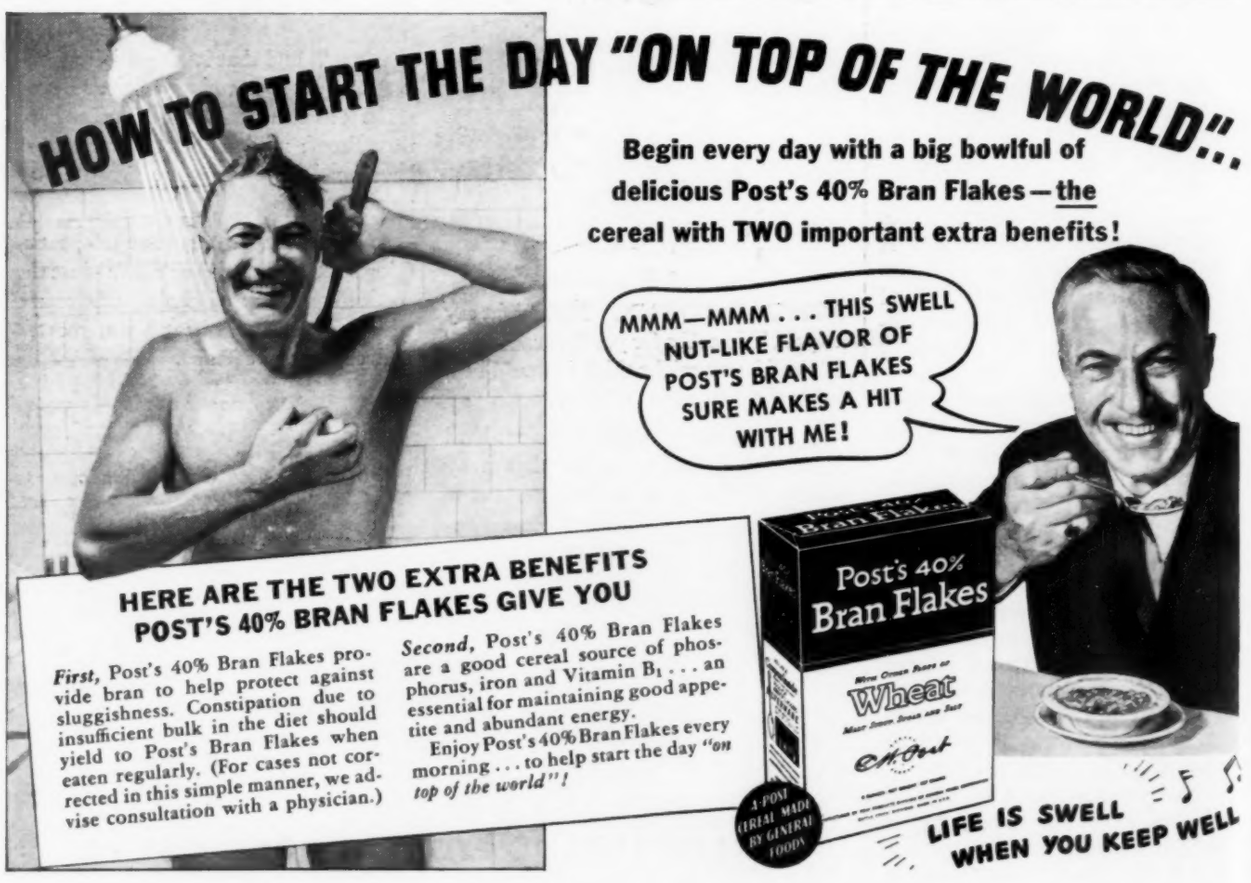
She ought to get out of bed at least twenty minutes earlier than usual, shed whatever she wears and exercise in her birthday suit. If it is cold in her room, so much the better: she'll work hard to get warm fast. First, she should touch the floor with her fingers, the palms of her hands, or her elbows, without bending her knees. This may be optimistic, but it is perfectly possible to touch the elbows to the floor without bending the knees. She must do this twenty times, getting her rest and breath by bending backwards as far as she can without bending her knees before she bends forward again. Rest isn't the right word for it, but she'll find one before she has done it ten times.

For the second exercise she should hold something solid, about waist-high, with her left hand. After seeing that she has plenty of room, she should swing the right foot forward and backward as hard and as high as she can without bending either knee. This should be repeated twenty times while standing on the left foot, then twenty times facing the other way and standing on the right foot, holding on with the right hand.

The third exercise is pliés. That just means bending her knees, keeping feet and heels on the ground and trying to go up and down with the back straight. This is extremely hard to do, even for an agile ballerina, so she can start with her feet ten inches apart, allowing some give on the heels by letting them come up about 2 inches. But she should start doing each exercise only five times, working up to the twenty gradually, to avoid being on the stiff list.

After her shower she can dress and have her breakfast. Have her walk to school, wear low heeled shoes, a light-weight coat, scarf and mittens. Tell her to walk fast and keep her chin up. If she's tired after school, advise against soft drinks. Allow her to have a cup of tea with lemon, one lump of sugar and two small crackers. Don't worry about her. Let her walk the two or three miles to her music lesson, or to the dentist. Turn her loose, refuse to chauffeur her any more, and let her walk herself slim. Watch yourself, though, you may get fat on her slimming regime. She'll be cross and she'll be tired, but she'll lose weight! And when she finds at the end of ten days that she has to roll her skirts at the waistline to keep them on, she won't be cross any longer.

There'll be days when dieting is impossible for her, days she is invited out to lunch, or to parties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LIFE IS SWELL WHEN YOU KEEP WELL

after the dance. Give her her calory count, and tell her that it is her word against that of the scales, and that the scales won't lie.

When she absorbs too many of the wrong calories and comes to you penitently for advice and help, a suitable diet is a quart of milk and two green vegetables for one day, twice a week. It's the only way you can help her pay up for her excesses: Milk and orange juice for breakfast, raw vegetable salad, or two cooked, green vegetables and tea for lunch, milk and lemon gelatin for supper and a glass of milk before she goes to bed. It's a mean and empty sort of day, at best, but it starts the scales going gradually down to the proper weight.

Not every girl knows that her stifled yearnings, her futile day dreams, her abortive romances, may in reality be the cause of her overweight, but it is true. Eating is such a pleasant pastime that the thwarted girl who gets C's when she tries for A's may munch peanuts, absorb icecream sodas, take a second helping of mashed potatoes just for the sake of feeling really contented for a little while.

Worry won't make a girl thin, rather it will make her fat if she has access to a well-filled cake box and an adequate allowance to spend at the corner drug store. As soon as she can be made to see that every time she indulges in a little snack of waffles and syrup, or an icecream soda between meals, she is merely seeking temporary solace from the memory of that tall red-head who jitterbugs so perfectly and who wouldn't give her a tumble at the Junior Prom, she will have gone a long way towards regaining and keeping her girlish figure.

There are several hints a girl going on a diet would do well to heed. The first is to consult her doctor, and not to reduce unless he agrees with her that it is the wise thing to do. After that, she must tell her mother, for she will need intelligent cooperation at home. No clothes of any sort should be bought, or even altered extensively until she has reached the desired weight and retained it for at least a month. She should never let any one outside the family know that she is dieting, and the family should be sworn to an honorable silence. When food is offered her she can pretend that she is not hungry, that

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Clapp's Strained Foods

OKAYED BY DOCTORS AND BABIES

she has already eaten, or that she "Is full, right up to here!"

At parties, lunches and dinners in public, she should never refuse food. She should take whatever she is offered, smile, taste it, say how delicious it is and fuss with it. She will soon become adept at this if she is much overweight. If at table, she should toy with her food, till it appears to have been eaten. This will keep her hostess happy, particularly if she says how good it tastes, and will keep her on the active guest list. A dieting guest is the world's worst pest. Tell her to guard the sin of reducing with her life. Warn her not to let her best friend know that she is taking off weight, unless she wants to know the worst about her. Dieting seems to bring out the cat in most girls, particularly if they'd like to reduce but haven't sufficient character to stand the gaff.

Once she has actually dieted herself to the weight she has chosen as ideal, advise that she increase her intake gradually. If she doesn't, she will not only have a bad case of indigestion—which may become chronic—but the pounds will come galloping back. And, like troubles, they never come singly. If she will stick to walking, instead of riding, exercise hard in the gymnasium, eat light breakfasts and lunches, count her calories honestly and unspectacularly, and if she never exceeds 2,500 calories a day, she ought to be able to maintain the ideal weight for her particular age without too much abstinence.

Of course, if she adds inches to her height, she'll have to allow her weight to creep up along with them, but she can stay slim and lovely just the same. She needn't become a meal bag, whom the stag line blithely ignores. Dieting is fun, if she'll make it into a game. And the nicest part of it all is that it is the one game she can win when she loses in a big way.

SEX EDUCATION for the TEN YEAR OLD

(Continued from page 442)

psychiatrist, especially if the parent is emotionally incapable of discussing sex objectively.

A further problem that may rise in the parent's mind is whether the child should be given certain types of information as a protection against exposure to incidents such as sex play with children of the same age, and sex aggressions by adults. Sex play between young children has been found to be fairly frequent but it is mainly an expression of the natural curiosity of the child to know how members of the opposite sex are constructed. Such incidents were found to be sources of emotional disturbance only when the parents made a great issue of them and made the child feel that he or she had done something extremely disgusting. For this particular problem the parents' task is not so serious because the best plan seems to be to avoid undue concern and emphasis, while taking steps to prevent a recurrence.

The question of how to protect a child from sexual aggression is a complicated one. There are advantages and disadvantages in any advice that can be offered. Certainly, if sexual aggressions have already occurred the parent is only traumatizing the child by making a great fuss over the matter. However, parents necessarily feel that it is part of their duty to protect against such occurrences. Warning or explanation beforehand may give the child unnecessary fears and apprehensions so that he or she is unnecessarily timid and shy. If the girl is told in vague terms that strange men may "do something" to her, her whole attitude toward strangers may become distorted and she may view them all as potential dangers or threats. Instructions that she should not talk to strangers, go for a ride in a strange car, or accept candy from some one she does not know, can be given in the same way in which social amenities or manners are taught. There are certain parts of the child's instruction which must be accepted on faith by the child. While in most things the logical consequence of the act is the preferred way of explaining, in regard to the social conventions it is often beyond the ability of any one to justify certain of these forms. In the case of the threat of sexual aggressions, the logical reasons behind the instructions may be as great a source of anxiety and fear as exposure to the actual incident would be.

In general, the parent approaching the problem of sex education should realize that his or her own attitudes toward sexual matters will color any type of information that is given. The way in which this information is given will be affected by prudish attitudes or personal sexual maladjustment. The amount of information given may be influenced by particular theories of child education that the parents have picked up through friends, magazines or books.

But the most important factor in the sex education of a child rests in a happy parent-child relationship. The best method seems to be to answer the question when it is asked, but to make sure that you know why the question was asked and how it is understood after it is answered. Mutual confidence and understanding must be encouraged.

SUGGESTED READINGS

"Sex Education of Children" by M. W. Dennett. Cloth. Price, $1.75. Pp. 202. New York: Vanguard, 1931.

"Sex in Development" by C. Landis and co-authors. Cloth. Price, $3.75. Pp. 329. New York: Harper and Bros., 1940.

"Parents and Sex Education for Parents of Young Children" by B. C. Gruenberg. Cloth. Price, $1.00. Pp. 112. New York: Viking, 1932.

"New Patterns in Sex Teaching": The normal sex interest of children and their guidance from infancy to adolescence by F. B. Strain. Cloth. Price, $2.00. Pp. 242. New York: D. Appleton Century Co., 1934.

"Sex Education: Facts and Attitudes" (Symposium). Pamphlet. Price, $0.25. Pp. 60. New York: Child Study Assn. Amer., 1934.

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QUESTIONS AND *Answers*

Hereditary Aspects of Pneumonia

To the Editor:—Is pneumonia hereditary in some cases? If so, in what form? M. S., New York.

Answer.—In the strictest sense pneumonia is not hereditary. It is a communicable disease transmitted from person to person. However, the susceptibility to pneumonia may be inherited. Some people have a natural immunity to this disease and never acquire it; others may acquire it on the least exposure; still others may have a partial immunity and may require much larger doses of the invading organisms before coming down with the disease.

Heart Disease

To the Editor:—What plans are being made to attack the high heart death rate in all age groups? S. A., Illinois.

Answer.—As long as man cannot live forever, he must die of something. Interesting changes have taken place in death statistics in the last fifty years. Where formerly many deaths were certified as due to debility, inanition, senility, or old age, there is now an increasing percentage certified as due to specific causes such as heart disease, apoplexy, nephritis, etc.

It is quite true that heart disease leads the list of causes of death and there are some persons who have regarded it as a shining target for a new public health crusade. There will always be crusade-minded people and presumably nothing can be done about them. It is hoped, however, that we shall not witness a crusade against heart disease "in all age groups" comparable to the attack on tuberculosis, syphilis and other diseases.

The heart disease death rate is different from other death rates. When heart disease occurs from preventable causes in early years, the rate may be brought down and any sensible means toward such an end are to be desired. Specifically, the preventable causes of heart disease in early life include heart disease due to rheumatic fever, infections, endocarditis and the heart injuries due to syphilis, focal infections and overweight.

Rheumatic fever is the principal cause of heart disease in children but measles, scarlet fever, diphtheria, whooping cough and perhaps other acute infectious diseases contribute their share. Prevention is approached through prompt recognition of disease, early and adequate treatment and particular emphasis on convalescence. In adolescence and young adult life occur the infections of the heart lining, the so-called infectious endocarditis. The approach to the prevention and successful treatment of this condition is not clear. In early middle age comes the heart disease which may be traced variously to syphilis, chronic focal infection, toxic poisonings and overloading due to overweight. In these several fields the procedure is relatively clear and should be followed.

In later middle age and sometimes earlier, angina, cardiac thrombosis and cardiac embolism may appear. Sometimes these diseases may be postponed and they should be if possible.

In more advanced age are the large number of persons who, having lived a long life more or less satisfactorily, begin the general disintegration associated with age. This appears to affect the heart and blood vessels primarily and, through them, the other tissues. As yet there appears to be no way to postpone death indefinitely.

The heart disease death rate is composed of many constituents, some of which can be attacked while others cannot. A comparison of the death rates of today, in which heart disease leads, with those of past generations when tuberculosis was the leader, are all in favor of the present status. The high cardiac death rate is in itself an indication relatively favorable, especially as it includes deaths at more advanced ages. It is better to die of heart disease at 65 than of cholera morbus at the age of 2 weeks, whooping cough at the age of 9 months, diphtheria at the age of 2 years, appendicitis at 17, tuberculosis at 23, or an automobile accident at 37.

For further information about a sensible program with relation to heart disease deaths, an inquiry may be addressed to the American Heart Association, 1790 Broadway, New York, or to local heart associations where these exist.

Milk for Children During School Hours

To the Editor:—From the standpoint of health, is it necessary or desirable to serve milk during school hours? Would it not be just as satisfactory if the children received their milk at home? At our school, children go home for their lunches during the noon hour. E. V., New Jersey.

Answer.—The essential consideration is that the children receive their full quota of milk daily. The question of whether milk should be supplied at school when the children have all their meals at home depends much on whether the children get or are likely to get sufficient milk at home. Thus, the decision would depend on the dietary habits of the family or of the children themselves and on the economic status of the average family in that school area.

In situations in which each child receives at home a minimum of a pint and a half of milk daily, presumably no need exists for supplying milk at school. However, availability of milk at school offers opportunity to supplement inadequate diets with a highly important food. Sometimes certain foods are desirable between meals to assist in combating the easy fatigability of those children who are undernourished because of inadequate diets. Between meal feeding is easiest accomplished at school and milk is an excellent food for this purpose. For normal children with satisfactory diets no school feeding is required. Those children who do not drink milk at home because they do not like it are more likely

to drink it in a group in which other children are doing the same thing. The final answer to this question would be obtained by a dietary survey of the group of children under consideration.

Transposition of Words

To the Editor:—Why does a person who is normal and well educated occasionally misplace words in a sentence? Instead of saying, "I gave a rose to the girl," he will say, "I gave a girl to the rose," or "She will make a man a good wife" comes out as "She will make a good man a wife." It is only after the sentence is spoken that the person is conscious of the mistake. These mistakes do not occur in every conversation, nor every day, but frequently enough to cause worry and embarrassment. Is this a remote sign of insanity?

M. A., Ohio.

Answer.—The answer to the question of why intelligent, well educated people misplace words would involve a long philosophic discussion of what is considered in the Freudian literature as "slips of the tongue." There are many different types of slips, some having rather obvious meanings, while others are obscure and little understood. Such "slips" or the misplacement of words are common and bear no established relation to mental disease.

Breathing

To the Editor:—What makes a person breathe? Breathing appears to be effortless, therefore there must be some power in the lungs. What is that power?

G. S., Illinois.

Answer.—There is indeed a power that keeps people breathing without conscious effort, but it is not in the lungs.

The lungs have little power. They are composed mostly of elastic tissue with a few small muscles. The lungs function because they are set in a vacuum inside the chest. When the chest is expanded, air rushes in from the outside through the nose, throat and windpipe to fill the lungs. When the chest wall subsides, air is forced out of the lungs.

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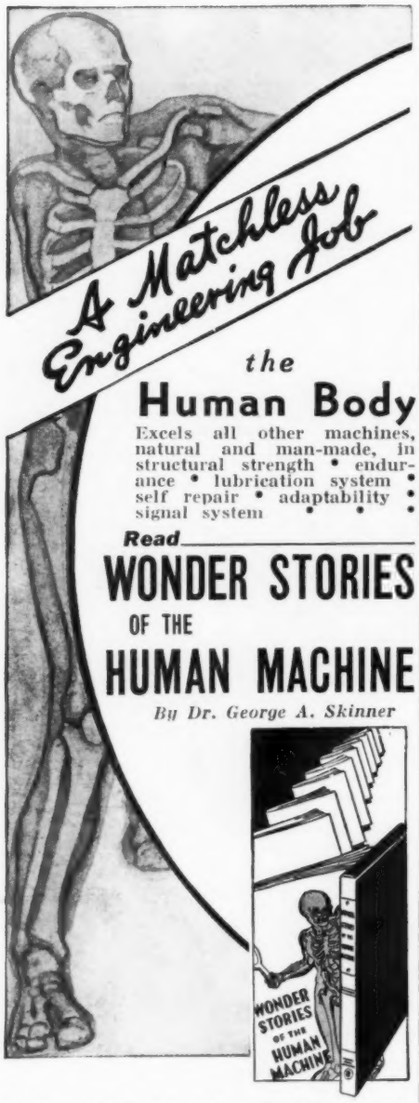
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There is also a muscular partition horizontally across the body called the diaphragm. When the diaphragm is pulled downward, the chest cavity is enlarged and air rushes into the lungs. The chest and the diaphragm usually work together so that a considerable increase in size of the chest cavity is accomplished.

The chest and the diaphragm work by muscular action but this is controlled by nerves which arise from a center in the lower rear part of the brain. This center works automatically and without conscious effort, although it can be influenced by excitement, drugs and other influences and its work can be replaced or taken over temporarily by "iron lungs."

Local Anesthesia for Electric Needle Treatments

To the Editor:—Can a local anesthetic be used to alleviate the pain of electric needle treatments? What antiseptic is safest and best for use in connection with electrolysis; will such an antiseptic discolor the skin?

W. O., New Hampshire.

Answer.—A local anesthetic cannot be used to alleviate pain in electrolysis because it would interfere with proper contact of the fine needle point with the hair root, an exact and delicate procedure if scarring is to be prevented or minimized and good results obtained. By slowly increasing the current after each introduction of the needle, the pain is usually well-tolerated by the patient, even on the upper lip. Alcohol is the most satisfactory antiseptic for use before and after electrolysis but discoloration or staining following the use of other antiseptics has not been observed.

Child Feeding

To the Editor:—What can be done about a 3½ year old child who will not chew his food but will eat all foods if mashed or strained? Will this hinder him physically or mentally?

M. M., Illinois.

Answer.—When a 3 year old child will not chew his food but will eat all foods if they are mashed or strained the situation calls for determination on the part of the parents.

Be sure that there is no physical reason why the child will not chew. If his mouth and teeth are in good condition, he should be served foods which require chewing and should receive no more strained or mashed food except insofar as strained or mashed foods may be served to other members of the family.

At first he probably will not eat but this is no cause for alarm because no child of normal intelligence ever starved in the presence of good food.

The child will learn to chew. It may take a few days or a few weeks to solve this problem but if the parents continue without weakening there should be no further trouble.

Of course, if there is any question as to who is boss in the household, the chances are the child will continue to refuse to chew just as long as he can keep his parents straining and mashing his food and perhaps spoiling him in other ways.

Plastic Contact Lenses

To the Editor:—Are the new plastic contact lenses safe to use and do they have any advantage over glass lenses?

W. S., Illinois.

Answer.—Originally, contact glasses were made exclusively of optical glass and, as such, had to be ground to conform to certain set curves. With an irregularly shaped eye, these curves usually did not fit and consequently there were many instances in which the glasses could not be worn. Recently, a method has been developed for making a mold of the front part of the eye. From this mold a plastic contact glass was formed, serving as a basis from which the finished glass was made. In England the finished lens is still made of glass, but in this country the extensive use of plastic material has led to the development of an optically perfect, unbreakable plastic, contact lens. A plastic lens is apt to fit the eye more accurately than glass, is easier to produce and is unbreakable. Optically and cosmetically, it is just as satisfactory as the lens made of glass.

Manufacturers who have developed a plastic contact lens have

copyrighted the process and have attached trade names. There are several made in different sections of the country and all are of equal value. From the standpoint of the safety of the eye to which the contact lens is fitted, the plastic is better than the glass because of its unbreakable qualities.

Alcoholism

To the Editor:—Please give me any medical information you can for helping to cure a person from harmful drinking of alcohol.

A. A., Ohio.

Answer.—The treatment of persons who are excessively addicted to the use of alcohol is a difficult and complicated process.

The modern view of alcoholic excesses is that they are usually due to personality disturbances or conflicts. The old idea of a supposed irresistible appetite for alcohol is not held any longer. The present view is that a person does not take alcohol because he craves it but because he finds himself unable to face the problems of his life, and alcohol gives him a temporary escape from situations which he regards as intolerable. The patient, of course, is not usually conscious of why he indulges in alcohol to excess.

It may still be necessary to put the patient in a hospital and give him medical treatment to overcome the effects on his physical health of excessive use of alcohol. This may be an important part of the treatment, but it is not all, nor does it appear to be the most important.

The most important thing is to discover the fundamental cause of the patient's necessity for escaping from reality. This is a job for a physician who is specially qualified along these lines. Advertised cures which are supposed to be given to the patient secretly are of no value.

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a three-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

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SUBTLE MURDERER

(*Continued from page 462*)

"One of the most important phases of the amebiasis problem is the need for laboratory personnel capable of recognizing the Endamoeba histolytica and differentiating it from other protozoa encountered in the intestinal tract. Furthermore, since frequent stool examinations fail to disclose the parasite, reliable supplementary measures should be developed for diagnosis."

Doctors who have made a special study of the pathology of amebiasis are now dealing competently with the disease daily. Their patients are being cured. It isn't an easy task, for amebiasis is no simple affliction. The amebae are lodged deep in the intestines—on tissue surfaces or burrowed under them—and perhaps in the bloodstream. Different drugs are necessary to reach them in different places. Doctors who complain that they are "poisoning" or "torturing" amebiasis patients without curing them may be using the wrong drugs or combination of drugs, or administering repeated doses so small that the patient becomes ill while the amebae go unharmed.

To become more proficient in treating this difficult ailment, many physicians have gone back to medical school for graduate or "refresher" courses. Notable in this respect is the graduate study offered at the School of Tropical Medicine at Tulane University, which is attracting doctors from all parts of the United States. These Tulane trained men are approaching the amebiasis problem directly, effectively, with plenty of professional "know-how." Outstanding authorities who have led in research are Dr. Julian Ruffin, associate professor of medicine at Duke University; Dr. Alfred C. Reed of the Hooper Foundation, San Francisco; Col. Charles F. Craig, U. S. A., retired, editor of the *Journal of Tropical Medicine,* and Ernest Carroll Faust of the School of Medicine at Tulane University in New Orleans.

Doctors and public health officers don't like to scare or panic people. But in recent years experience has convinced them that the hush-hush policy in combating disease often amounts to neglect of public duty. Besides, the doctors need active public cooperation to accomplish the task. So it is sometimes better to let the public have the grim facts, straight and unvarnished. People can be surprisingly intelligent and cooperative when they know that both their life and health are at stake.

There is no reason why amebiasis should infect 10 per cent or even 5 per cent of the people, and why these people should perpetuate the problem by infecting others. Public health crusaders are prepared to do their part. But they need the full force of American opinion, public and professional, if they are to chalk up another victory by eliminating the amebic menace.

SPANISH TRANSLATION

The National Foundation for Infantile Paralysis announces the publication of a Spanish translation of the pamphlet "The Nursing Care of Patients with Infantile Paralysis" by Jessie L. Stevenson, R.N., consultant in orthopedic nursing, National Organization for Public Health Nursing. This pamphlet, illustrated by line drawings, was prepared by The National Organization for Public Health Nursing for The National Foundation for Infantile Paralysis as a part of a project in orthopedic nursing sponsored by the Foundation. It is intended to assist the public health nurse and others responsible for home care of patients with infantile paralysis in and following an epidemic. Copies either in Spanish or English are available free on request from The National Foundation for Infantile Paralysis, 120 Broadway, New York City.

Health Tips on Your Trip

(Continued from page 467)

the water that comes out of your faucet has been treated in many different ways to insure safety. But all water that comes out of faucets is not necessarily safe. And water that comes from sources other than faucets is to be suspected even more. In some states, cities have signs at all entrance points certifying that the water supply has been tested and is fit to drink. But these comparatively few assurances serve only to point out how many other towns have no provision for insuring safety of the water supply. It does not follow that all water not treated is contaminated, but one drink of bad water may cause disease.

In traveling, the best policy is to carry a one or two gallon thermos jug. This jug can be filled with ice cubes and thus will furnish cold water at any time. Also, if it is filled at reliable sources, you will be certain of the water you drink. Too many adventurous souls get off the beaten track and make the mistake of drinking from a crystal clear, cool running brook, or from that quaint old well. The appearance of water is not changed by the bacteria it may carry, and a clear, cool stream may be teeming with pathologic organisms. A great many streams and wells are contaminated by human wastes that seep through the earth from privies, cesspools and drainage sewers. Disease-producing bacteria often travel comparatively long distances in water and even freezing will not kill them. Sucking ice, or using ice made from polluted water to cool drinks, therefore, can be a source of infection. Do not drink from any source except one that you know is safe. If you are uncertain of the water supply, bottled soda pop will quench your thirst temporarily until safe water can be obtained.

An additional danger found in water, especially in the Northern

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part of the United States and Southern Canada, is the possibility that it may contain parasitic organisms such as liver flukes. Parasitic infections are endemic in that region, and no pool or stream is safe.

There is one cardinal rule concerning milk: "Drink only pasteurized milk." Although many people have been drinking unpasteurized milk all their lives and are still healthy, that milk was inspected, tested and under constant supervision. But it is not as safe as the pasteurized supply. On the road, however, there is no way of knowing whether the milk is inspected or not, unless the restaurant carries signs to that effect. And even then, these inspections are often few and far between. If you must have fresh milk, pick the cleanest restaurant in town. Demand pasteurized milk, and don't back down before hostile glances or sarcastic mutterings of the proprietor. It is better to be safe than to occupy a lonely bed in a local hospital.

The only criterion for safe food is cleanliness. Food, no matter how thoroughly cooked, if served in a dirty environment is not safe. Many persons, especially women and children, suffer from car sickness on long trips, and, as a result, confine their meals to light salads or raw vegetables. These vegetables may be contaminated with human wastes or serve as an intermediate step for human parasitic infections. The only way to kill off these organisms is to boil or thoroughly wash the vegetables. A restaurant that is not too careful in keeping its table section clean will certainly not be too fastidious about its unobserved kitchen.

In some states, Iowa, New York and North Carolina, each restaurant is required to exhibit a rating card, stating when it was last inspected, and how the inspector rated it. In lieu of these posted notices, a service station attendant usually can recommend the better places to eat. Beware, especially, of the roadside "hamburger joints" where even the most elementary sanitary precautions are usually neglected. That "quick snack" of hamburgers and coffee may satisfy your hunger and not waste too much time, but you may also go away infected with trichinosis. The profit in these "snack" restaurants comes from serving the cheapest quality of food.

Fresh fruit is refreshing during a hot, dusty ride, but where does it come from? Never, under any circumstances, pick fruit from a tree and eat it. Orchards are sprayed with poisons to protect the fruits from insects, and this poison is just as deadly to humans. Many roadside stands don't even bother to rinse off the fresh fruit "bargains" with which they entice you. Wash all fruit thoroughly before eating. Rubbing the hands over the apple to shine it is no magic charm to remove poisonous chemicals. Most fruit-raising states have quarantines against fruit from neighboring states because of insect pests that destroy orchards and may be carried from place to place within the fruit. This is true also of sweet corn in the Middle-Western states.

If you feel that call to adventure and you simply must tramp through the woods, beware the tick. Rocky Mountain spotted fever, reported from all but 7 of the 48 states, is transmitted to man by these ticks which become attached to the body. The preferable method of avoiding ticks is to wear long pants, tied about the ankles, and long sleeves and tight collars. However, whether or not you dress this way, when you return from the woods, undress immediately, search your body for ticks that may be attached and remove them, comb your hair with a fine comb, and then take a hot bath. Washing or at least ironing the clothes you wore is also a good idea. In this way you can remove the ticks—which take some time to attach—before they have an opportunity to inject the causative organism. The Eastern form of spotted fever is found chiefly in the Alleghany Mountains, and the same precautions are effective against it.

The danger of malaria to travelers, even in endemic areas which exist throughout the South, has been greatly exaggerated in the past. Only about 5 per cent of the Anopheles mosquitoes, the disease transmitters, are found to harbor the parasite in regions where many cases are reported each year. In places where the disease is not common, hardly a mosquito can be found that is infected. Because so few carry the parasite, it requires swarms of feeding mosquitoes to create a situation dangerous enough to worry about. The comparatively few bites that one is bound to re-

ceive while in mosquito country are of no consequence.

Another misconception generally believed by many is that taking quinine is a prevention against contracting malaria. Malariologists, today, are generally agreed that quinine does not prevent malaria, but rather keeps the clinical symptoms of chills and fever down to a minimum. Therefore, taking quinine can be dangerous in that it gives one a false sense of security. Also, quinine affects some persons adversely and may cause grave after-effects. In no case should you take quinine without first consulting a physician.

Still another misconception is that malaria-transmitting mosquitoes feed only at night. Different species of Anopheles mosquitoes feed at different times of the day, from early morning to late at night. While it is true that the kind that feed at night are distributed more widely throughout the Southern United States than the others, the danger is by no means confined only to these hours. However, due to the low number of infected mosquitoes, there is only small chance of the traveler contracting the disease.

If it is necessary that you sleep in a country where malaria is prevalent, demand a well-screened room and mosquito netting over the bed. Make sure that children are covered and that the net is secure all around. The traveler has little to worry about other than to sleep in screened rooms. People who plan to stay for some time in the South should consult local physicians for advise about precautionary measures.

Now don't clutch Junior to your bosom and cancel all plans for that trip. The few simple precautions to be taken require little if any deviation from normal life and will adequately protect and free you from anxiety so that you can enjoy your vacation to the utmost.

"Let's see. Tires okay. Oil and grease changed. Brakes tested. Headlights adjusted. Gas tank full. Baggage packed. Thermos jug full. Everybody vaccinated. I guess we're about ready to start now—safely."

HEALTH PROBLEMS IN EDUCATION

The Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association presents a symposium in cooperation with the American Medical Association Sections on Ophthalmology; Laryngology, Otology and Rhinology; Pediatrics; and Preventive and Industrial Medicine and Public Health, at Cleveland, Tuesday, June 3, 1941, at 2:00 p. m. It will be held in the Cleveland Public Auditorium Ball Room. The theme of the symposium is "School Environment in Relation to Health." Presiding will be Dr. Julius H. Hess, Chicago, chairman of the Section on Pediatrics, and Dr. C. D. Selby, Detroit, chairman of the Section on Preventive and Industrial Medicine and Public Health.

The introductory statement will be made by Dr. Charles C. Wilson, Hartford, Conn., chairman of the Joint Committee.

The program of the symposium will be as follows:

(1) Location, Construction, Equipment and Operation of the School Plant.
T. C. Holy, Bureau of Educational Research, Ohio State University, Columbus, Ohio.

(2) Health Aspects of Curricular and Extra-curricular School Schedules.
Charles H. Keene, M.D., Professor of Hygiene, Director of Health and Physical Education, University of Buffalo, Buffalo, N. Y.

(3) Health Practices in the School in Relation to Health Instruction.
Horton R. Casparis, M.D., Professor of Pediatrics, Vanderbilt University School of Medicine, Nashville, Tenn.

Discussion: Rt. Rev. John R. Hagan, Ph.D., Superintendent, Cleveland Catholic Schools.
Philip L. Riley, Assistant Director, Bureau of Physical Welfare, Cleveland Board of Education.

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BOOKS ON HEALTH

Born That Way

By Earl R. Carlson, M.D. Cloth. Price, $1.75. Pp. 174. New York: The John Day Company, 1941.

To all of us interested in handicapped people—especially in those who have been "Born That Way"—this book of Dr. Carlson's is most stimulating, informative and challenging.

It is the autobiography of a poor boy crippled with infantile cerebral palsy who with a brilliant mind, an indomitable will, an insatiable hunger for education and above all with heroic courage, succeeded in his determination to master his handicap as far as that was humanly possible, despite terrific odds against him.

The story is delightfully readable and frankly told from birth to marriage and the foundation of his two boarding schools in New York and Florida.

Dr. Carlson, congenitally a spastic but now a specialist in the treatment and training of spastic children, builds his theory and practice not only on his professional knowledge but also on the practical knowledge he so painfully acquired through the years of untiring "trial and error" that went into the shaping of his own career.

No wonder he is internationally famous as one of the foremost authorities in his field.

His educational theories are sound. He advises parents, teachers and doctors to begin with the training of the spastic child as soon as his condition is recognized and he gives helpful suggestions to the earnest, intelligent student who frankly faces his handicap even though he is "scared stiff" and wants to train himself to overcome it.

"Control of motions is won by control of emotions." "Play-life is essential for sound emotional development which is vitally important to the spastic."

He argues against brooding and introspection, "the spoiled-child attitude" and against the "overly-sympathetic" assistance of family and friends. He believes in relaxation, he stresses simultaneous mental and physical training and he insists on the development of concentration, perseverance and the ability to do hard work, to make the child "self-dependent."

"In my clinics I had to echo as a physician what I had been told as a patient. In education and in self discipline lies the greatest hope of overcoming the handicap of the spastic. Surgery and physical therapy can help the spastic to better control of his nervous system but they cannot cure it."

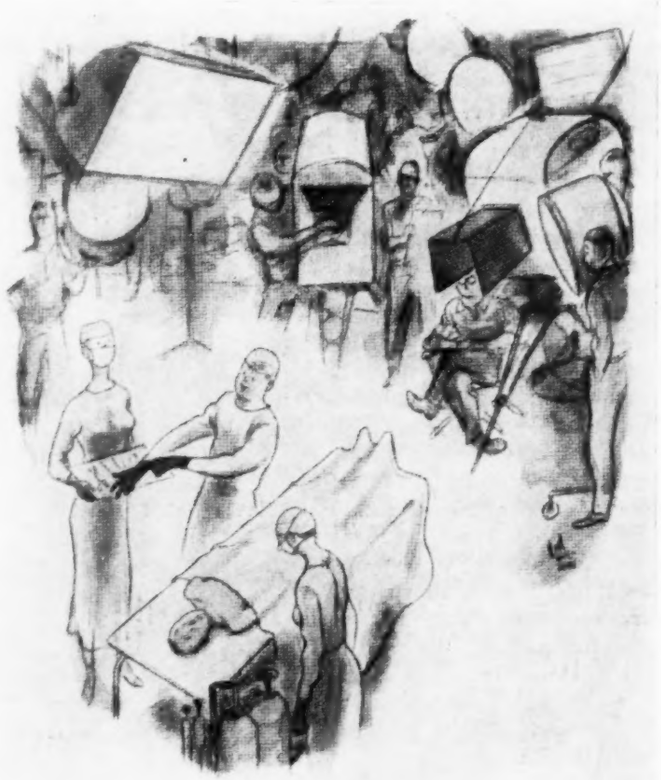
He advocates special classes and schools for handicapped children and he has stimulated their establishment in many centers—even in 16 South American countries, visiting them by invitation to examine some special patients, to hold clinics and to talk to medical groups.

We all agree with Dr. Carlson's pathetic statement, "The great unsolved aspect of the spastic problem is the question of vocations."

But he says in conclusion:

"Every human life has its purpose, and even the most hopelessly handicapped can be useful to society.

I have sometimes been embarrassed by being hailed as an example of what the handicapped person can do if he determines to overcome his difficulties. But what I have accomplished is really due to the help and guidance, throughout my life, of a host of teachers and friends. They kept me struggling against my difficulties and encouraged my belief that, by making the most of my opportunities, I could help other spastics to free



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themselves from the shackles of their handicap and to become useful citizens."

We wish Dr. Carlson many happy, successful years in the realization of that ideal! THECLA DONIAT.

Taber's Cyclopedic Medical Dictionary

By Clarence Wilbur Taber. Cloth. Price, $3.00. Pp. 1,500. Illustrated. Philadelphia: F. A. Davis Company, 1940.

This compilation is an excellent example of the rapid growth of medicine and its terminology. It is the third book of the same type which has been completed by the author since 1937 and contains more than twice as much material as the last. It has been compiled by an editorial staff of fifteen authorities representing medicine, surgery, nursing, dietetics and physical therapy and may, therefore, be considered as a dependable source of information. For each word the pronunciation, derivation and definition are given. In addition, incompatibilities, treatment, symptoms, uses and dosage are included for certain terms. The appendix contains much information which is valuable to medical students, such as tables of arteries, veins, nerves and Latin expressions. The publication is far superior to the earlier revision but is still rather limited in scope; it is hoped that many terms in the allied fields of materia medica, pharmacy and chemistry will be added in the future. The 364 illustrations are not especially well done or accurate but are quite understandable. The greatest improvement which could be recommended for the book is a choice of better paper. H. R. K.

Seven Quickly Administered Tests of Physical Capacity

By Royal H. Burpee, Ph.D. Cloth. Price, $1.85. Pp. 151. New York: Teachers College, Columbia University, 1940.

This small volume resulted from an effort to find a simple, easy, quick test of physical efficiency which would require a minimum of time, not as a substitute for complete medical examination but rather as a sort of screen test which would at least indicate persons who should not indulge in vigorous physical activity.

The effort seems to have been successful since the test decided on consists of a simple exercise and its effect on circulation as judged by alterations in pulse rate and breathlessness. In a series of comparisons between the interpretations of the results of this test and the opinions of cardiologists for the same persons, the correlation was high for those persons who needed to be markedly restricted in their physical activities.

The book presents an interesting study clearly although it will have a strictly limited usefulness. It includes an extensive bibliography which covers all of the similar tests suggested and used in this country.

Dudley B. Reed, M.D.

Plague on Us

By Geddes Smith. Cloth. Price, $3. Pp. 365. Illustrated. New York: The Commonwealth Fund, 1941.

This scholarly book outlines the history of infection and brings it down to the present day and the menace of pestilential epidemics in modern civilization. The keynote of the book is found in the last chapter of the prologue:

"Influenza kept step with the last war. If it came tomorrow we could not stop it. The lords of Europe are fighting again. Masses of men are bombed out of their homes and cities, hounded into exile, driven hither and thither in a greater dislocation of ordered living than any rational man would have thought possible. Such a world is in peril of pestilence. It is early to boast."

This is a wholesome book, because there has been some tendency toward boasting in late years about the conquest of epidemic disease as if it were an accomplished fact. Experienced and conservative health officers have realized that there remain unsolved epidemic problems such as those listed in the author's chapter 8, namely: influenza, pneumonia, the common cold, tuberculosis, malaria, yellow fever, plague, typhus and syphilis.

The author believes that some of our plagues have been receding "because of cloudy biologic trends or broad social changes, not because of deliberate control."

The book is a thoughtful analysis of the modern situation with respect to communicable diseases and with special reference to disruption of community organization by bombings, mass migrations and other exigencies of war. It is not

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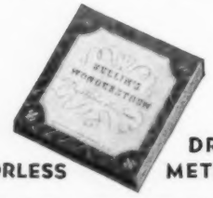

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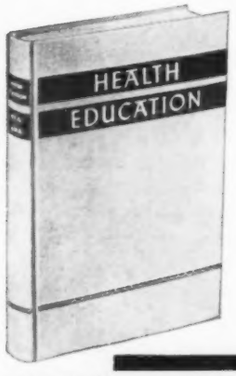


By the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association with the Cooperation of Advisory Committees.

AMERICAN MEDICAL ASSOCIATION
535 North Dearborn Street, Chicago

calculated to be comfortable reading, but it is undoubtedly wholesome and necessary reading.

W. W. BAUER, M.D.

Man—The Mechanical Misfit

By G. H. Estabrooks. Cloth. Price, $2.50. Pp. 251. New York: The Macmillan Company, 1941.

This book, as its title indicates, is devoted to proving that man is a mechanical misfit and will, therefore, sooner or later be as extinct as the dinosaur and the mastodon.

In support of this argument, it is claimed that the skeleton is deteriorating and that the internal organs are inadequate, and, worst of all, modern man has not been content to let nature take its course and weed out the unfit. Instead, by numerous devices which constitute so-called civilization, he has preserved the unfit and encouraged them to multiply, while, at the same time, through the medium of war, he kills off the best stock. According to this argument, the brain, which is in itself the finest organ in the body and the finest brain of any living creature, is, by that token, the worst enemy of man. It is designated as "the vampire brain," preying on and destroying the body for the sake of individual pleasure, comfort and convenience, with practically total disregard for the welfare of the race.

Industrial progress, inventive genius and preventive medicine are indicted as softeners of the race, rendering it unfit to survive in the raw world of nature if its artificial safeguards should ever be swept away. The doctor is characterized as man's best friend but also man's worst enemy, because he saves the lives of infants and mothers who would be lost if left to nature, because he prevents communicable diseases by artificial means and thus creates a race of nonimmunes, and because he does not prevent the unfit from breeding and stimulate the fit to be more prolific. According to the same argument, the educator, the sociologist and the industrialist are criminals of the same kind but of a lesser degree.

Genetically, the book places heavy emphasis on the multiplication through heredity of physical and mental defects but does not appear to give sufficient consideration to the fact that these defects are not always dominant, but may be recessive and may, therefore, tend to breed out as well as in.

The first 240 pages of the book are devoted to proof of its thesis; the last five furnish what is called a solution. Briefly, this is to sterilize all the unfit for one generation and thus solve all hereditary problems at one blow, and at the same time eliminate war. "Just as simple as that. And just as hopeless as that." (Page 242.)

The only ray of hope in the book is that, despite his unfitness, man will probably survive for another thousand years—maybe a hundred thousand. On that basis, no one living today can either prove or disprove the thesis of this book. One sure prophecy can be made; namely, that this essay will start a merry little war between the anthropologists who appear to be gloomy and pessimistic, and the sociologists, doctors and public health workers.

W. W. B.

Books for Tired Eyes

By Charlotte Matson and Dorothy Wurzburg. Paper. Price, 65 cents. Pp. 80. Chicago: American Library Association, 1940.

This booklet is a listing of books in large print including fiction, biography, history and travel, literature and juvenile books along the same general lines. It covers a wide range of subjects, titles and authors, and should be useful indeed to libraries, ophthalmologists and others who face the problem of procuring reading matter for "tired eyes." The list itself is printed for the most part in 14 point type with a few parts in 12 point.

W. W. B.

NOTICE

Books reviewed in this section should be ordered from booksellers or direct from the publishers. They may not be secured through HYGEIA or the American Medical Association, unless published by this organization. The following list contains the complete addresses where the publishers mentioned in these reviews may be reached:

American Library Association, 520 N. Michigan Ave., Chicago, Ill.

Bureau of Publications, Teachers College, Columbia University, 525 W. 120th St., New York City.

The Commonwealth Fund, 41 E. 57th St., New York City.

F. A. Davis Company, 1914-16 Cherry St., Philadelphia, Pa.

The John Day Company, Inc., 2 W. 45th St., New York City.

The Macmillan Company, 60 Fifth Ave., New York City.

What Causes Fatigue?

(Continued from page 456)

workers carrying out their operations would be impossible for the untrained man. The extraordinary skill acquired by workers on fast-moving assembly lines is on a par with the attainments of professional baseball players. These skills come only from long practice but there are great inherent differences in capacity as well.

Training is closely related to fatigue. The inexperienced worker is exhausted at the end of the day because he has had to give thought to every move; the old hand can carry on his job reflexly, leaving his mind free for reveries. Fortunately, training serves to maintain a balance between age and youth. The older man has the smaller capacity for physical work but he is able to do his job more efficiently.

A significant contribution has been made to our knowledge of industrial relations by investigations carried on since 1924 in the Western Electric plant at Hawthorne, near Chicago. This study has been presented recently by Roethlisberger and Dickson in "Management and the Worker." It is their thesis that the social equilibrium is a prime factor in determining work performance. Even though hours of labor, wages and environmental conditions are within reasonable limits, the authors emphasize that emotions and sentiments cannot be overlooked. They have not only analyzed the situation but have proposed a solution for it: a system of interviews in which the interviewer, or personnel counsellor, encourages the employee to speak his mind, whether about home troubles, financial worries, sex problems or factory conditions. This opportunity to "talk to some one" and the discovery that the company has an interest in his welfare strengthens morale and increases efficiency.

The role of the clergy, of the teacher and of the physician in alleviation of spiritual and mental ills is old and well-established. It is formally recognized as a function of the priest and is properly, though informally, assumed by the physician. While most industrial physicians have their hands full in taking care of injuries, a notable instance in which an industrial physician has taken over the function of counsellor is described in a recent issue of *Factory Management and Maintenance*. The physician, Dr. Thomas Dobbins, by attention to sources of injuries, poisoning and discomfort has eliminated so many hazards that in four years—among 5,000 employees—lost-time accidents decreased from 94 to 4. The workers appreciate this achievement and they have responded by showing affection for their "Doc," by sticking to their jobs and by striving for improved safety records. The company saved enough, incidentally, on accident insurance premiums to pay for the entire health and safety plan.

A problem that is likely to come to the fore in this country is the relation of long hours and overtime work to fatigue and health. An official report on this subject is discussed in a recent issue of *The Engineer*.

In the crisis of last spring, the British government appealed for extra work. Factories began working twenty-four hours a day, seven days a week, cancelling all holidays. At first there was an increase in output but after two months of extreme effort absenteeism increased and men arrived late for work. Frequently men worked on Sunday at double pay and then took a day off in the middle of the week. In the Royal Ordnance factories, Sunday labor was discontinued in July without reducing production. One factory, after reducing the hours, set a new record for one week's production. It is now recommended that the weekly maximum be reduced to fifty-five or fifty-six hours. The subcommittee organized to consider this problem reached the following conclusions:

(1) Increased hours of work above an optimum, which varies slightly with different industries, do not increase production proportionately and may even result in a decrease.

(2) When heavy overtime is worked for prolonged periods, the general health of workers is undermined.

(3) If overtime has been prolonged, a reduction in hours will increase output, though there will be a time lag corresponding to recuperation of energy.

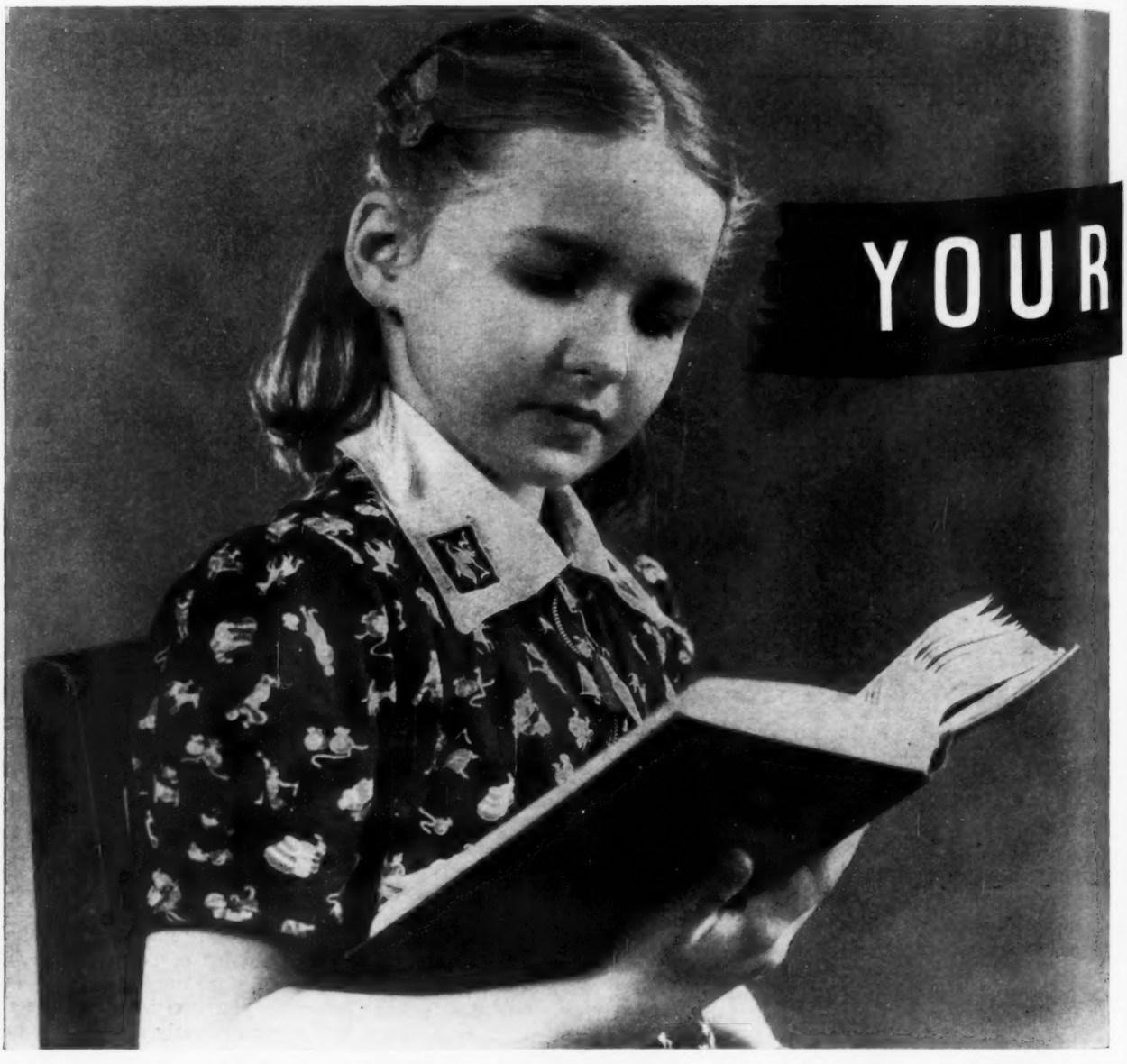
(4) If general health is undermined, a reduction in optimum hours will fail to effect the required increase of output.

The sub-committee also emphasizes that fatigue may be alleviated by proper attention to the conditions under which the work is done, with particular attention to ventilation and illumination. Eyestrain may become a serious problem in addition to the fatigue it causes.

Fatigue of idleness is a national problem. It deserves our most serious attention, but what is the solution? Various steps have been taken already, one of them with great success—the organization of the Civilian Conservation Corps. This, however, is only a partial solution: it reaches only a small number. Eventually, just as we have accepted compulsory military service as compatible with democratic principles, we may decide on universal labor service for our youth, rich and poor alike. The improved physical fitness that results from hard work, good fun and hearty eating has been amply demonstrated in the Civilian Conservation Corps. Extending this organization to include all young men for at least a six months period would implant in their minds lessons of utmost value.

Since fatigue may be experienced whether you are idle, moderately active, or intensely active, how can you determine what levels of activity are consonant with good health? The answer is difficult and in borderline cases impossible to give. However, it may be stated that fatigue and recovery are normal cyclical phenomena and must be accepted as a part of life. Only when the cycle is not completed in 24 hours, do we need to feel concern. This may be apparent at once in poor performance, but, as England has discovered, two months may pass before the proof of cumulative fatigue is indisputable.

Fatigue of two sorts must be faced as possibly undermining health: the fatigue of idleness and the fatigue of intense and prolonged work. A mean must be sought: discipline and hard work, tempered with play.



WHAT DO YOU KNOW ABOUT THEM?

Q. CAN BACKWARDNESS IN SCHOOL BE DUE TO EYE TROUBLE?

A. The child with defective vision must struggle against a terrific handicap which makes him seem stupid—sometimes rebellious and a truant. Often the effects of poor eyesight may be observed in other parts of the body, the stomach, neck and back.

Q. HOW CAN EYESTRAIN BE PREVENTED?

A. Children should play outdoors. Keep teeth, nasal passages and bowels in healthy condition. See that chairs, desks and tables are of the right size to assure good posture. Forbid reading in bed or under improper light.

Q. WHAT ARE DEFECTS OF VISION?

A. Far-sightedness (hypermetropia); near-sightedness (myopia); astigmatism; crossed-eyes (strabismus).

Q. CAN GLASSES BE WORN BY THE VERY YOUNG?

A. With modern, well-guarded frames, fitted by competent opticians, children as young as one year may wear glasses in perfect safety and comfort. Corrective results may be obtained in a very brief period; results which it might take years to obtain later on.

Q. WHO IS AN EYE PHYSICIAN (Ophthalmologist)?

A. A medical doctor (M.D.)—the same as your Family Physician—except that he has had specialized training and practice in the care of the eyes. If glasses are needed, he prescribes them.

Q. CAN MOST EYE DEFECTS BE REMEDIED?

A. Yes, if prescribed for by an Eye Physician (M.D.).

Q. IF GLASSES ARE NECESSARY, WHO SHOULD FILL THE PRESCRIPTION?

A. Obviously, a competent optician, preferably a GUILD OPTICIAN, because his ability is recognized by the medical profession, and his standards of service and ethics are the highest. While there are other opticians of integrity, the GUILD SEAL is your positive assurance that these essentials exist at GUILD OPTICIANS.

CHILDREN'S Eyes . . .

Free Booklet . . . at Guild Opticians

. . . the important questions answered on the foregoing page represent interesting examples of many problems which are authoritatively treated in this brochure on the care of children's eyes. Ask the nearest GUILD OPTICIAN for your FREE copy—and the names of Eye Physicians in your vicinity.

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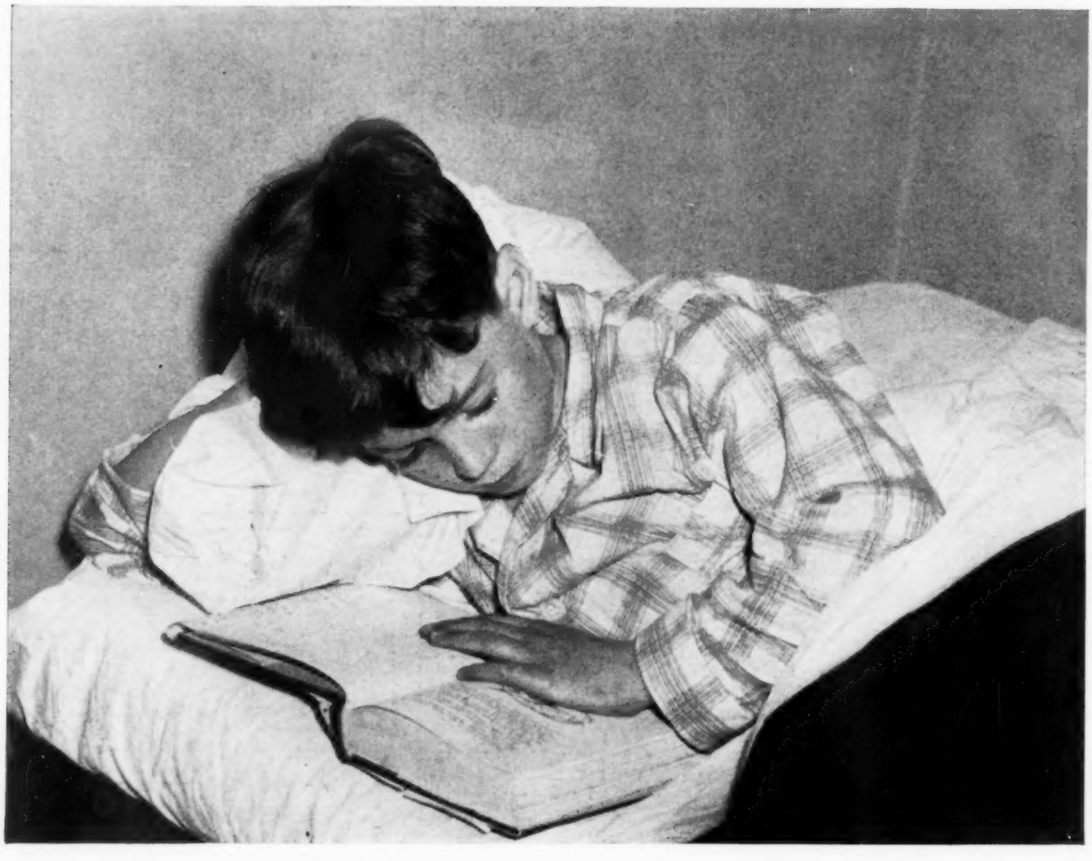

Reading in bed is often a cause of definite eye strain or discomfort.

When SEEING is a PROBLEM

By EMANUEL KRIMSKY

ADVANCE in medicine and specialization in all its branches have lengthened the strides of progress. The present generation is longer lived and retains the use of its faculties for added years. The study given to diseases of the eye and sight conservation have given rise to an ever-increasing number of ways to improve and conserve the eyesight of children.

At what age should children's eyes be attended to? Can we gradually eliminate trouble entirely by early attention to the eyes? It must be admitted that there are certain types of children that seem destined to have impairment in sight. For these glasses, medicine, exercises and corrective devices are futile. There are certain conditions which are beyond the preventive power of medicine. One of these is glioma, a malignant growth affecting the eyeball, much like a cancer. And yet, even in such a supposedly hopeless type of case, removal of that eye will prevent the spread of the tumor to the brain and thus the life of the child can be saved as well as sight of the other eye.

The question of habit as a cause of eye trouble is one that confronts the parent as well as the physician. Reading in bed is a frequent source of worry to mothers. Various arguments have been raised against reading in bed, such as poor lighting, unnatural posture and lack of rest, but the most important factor has not been discussed, namely, the position of the eyes in relation to reading matter. The natural gaze for reading or close work is obliquely downward and forward. We assume this position unconsciously not because of convention but because it is the most comfortable one for near vision. By raising print to the level of the eyes, or higher, a greater convergence strain is usually felt. While some persons may not experience any difficulty, in others there is definite eye strain or discomfort.

Poor sight is often confused with poor or sick eyes and yet, not infrequently, diseased eyes may see well. Crusty lids causing unsightly eyes are often labeled as sick eyes, whereas from the standpoint of the doctor they may be perfectly healthy. A child may have a harmless looking discharge known as "pink eye," which is compatible with perfect health because it does not lead to further complications. Yet in another child a discharge having the same appearance may, on laboratory examination, reveal gonorrhea, which if untreated will lead to incurable blindness. The

problem of whether an eye is healthy or diseased is an important one and can be settled only by an ophthalmologist.

Poor sight does not begin at school age, nor does it have any appreciable bearing on eyestrain caused by reading. If a child just entering school or kindergarten is found to have poor vision, there is reason to believe that the defect could have been discovered earlier. Eye examinations should be made before the child begins taxing his eyes. The young child may be straining his eyes even though he is not reading print.

Examination of the illiterate, young child is easily accomplished. It consists of covering one eye at a time and having the child reach for toys or targets of different sizes and colors at selective distances from the eye. The eye doctor may also flash a light into the child's eyes and, with the aid of lenses of different strengths decide whether the child is in need of glasses without even having to question him. Unfortunately, eye examination of young children for glasses is at present not very common and is chiefly confined to those who show visible crossing of the eyes. At this young, impressionable age there is nothing astonishing about the fact that cross-eyes may often straighten out immediately when a pair of proper glasses are worn. Nevertheless, it is not always an easy task to convince the mother that glasses are either safe or necessary.

Poor sight in a child is found usually to be due to "near-sightedness" or "far-sightedness." These terms do not describe or indicate accurately the conditions which they suggest. It is true that a near-sighted person has trouble in seeing things far away and also may have difficulty reading print close to his eyes. It is also true that far-sighted persons, contrary to popular notion, also have trouble seeing distant objects and often believe that they, too, are near-sighted. The doctor, then, must explain to the patient the meaning of his far-sightedness, even though the technical conception is clear.

Impaired vision is not due to peculiar visual responses, but to the anatomic or structural size of the child's eyeball. The images that pass through the surface of the eyeball and its lens must converge to a focus on the back of the eye, the

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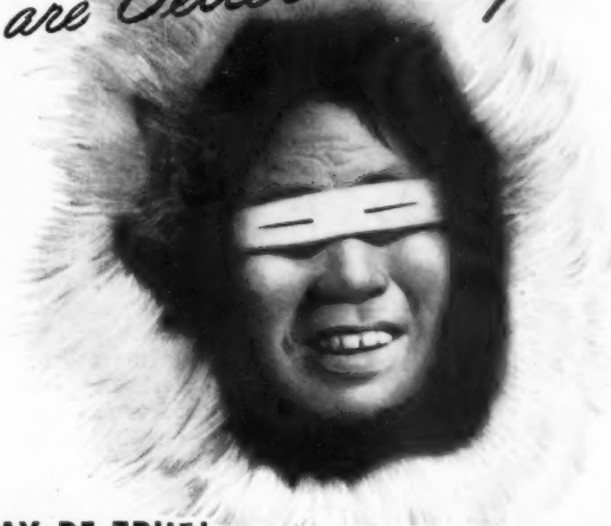

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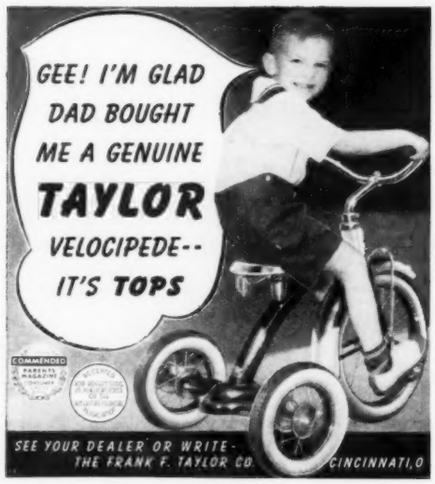

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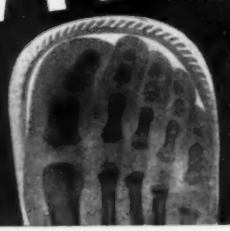

BABY'S BONES

The X-Ray shows how outgrown shoes twist and warp delicate, undeveloped infant feet. It's best to buy inexpensive shoes *and get a larger size often.*

All over America there are baby doctors who recommend WEE WALKER shoes because they are soft, flexible, roomy, and correctly shaped to give baby "barefoot" freedom, and yet are very low in price. See WEE WALKERS . . . compare them with shoes priced much higher. Infants' Wear Department of the following *low-profit* stores:

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retina, to be perceived clearly. In order that such images may be properly registered without the aid of corrective eyeglasses, the human eye with its delicate mechanism prefers the length of 1 inch for proper focusing. In near-sightedness, myopia, the eyeball is longer than 1 inch and the image is focused in front of the retina. Thus, the object cannot be seen clearly unless an artificial correction or lens is placed in front of the eye to bring the image to its proper position on the retina. Some people are more near-sighted than others, not because their eyes are weaker but because their eyeballs are structurally longer.

A far-sighted eye is shorter than the average normal-sized eye and here a different type of corrective lens is used to bring the image to a focus on the retina. Certain children show a progressively increasing near-sightedness and need stronger and thicker lenses with each examination. Mothers may blame such a change or increase in lens strength on the incompetency of the previous examiner, believing that a good examination from the start would have obviated repeated changes of glasses. Others blame it on too much homework, movies, or reading in bed. However, these changes are a part of the growth changes going on in other parts of the body. While it is desirable that the eyeball remain stationary in size, nothing can be done in those cases in which the eyeball continues to grow. No amount of exercise will improve near-sightedness or far-sightedness. These conditions usually cease spontaneously at about the twentieth year of life. Mothers sometimes fear periodic examination of the eyes because they may mean stronger glasses. Near-sightedness or far-sightedness often remains stationary and for these children the same glasses may be good for many years.

Eyestrain is a general and often vague expression used to explain many complaints referable to the eyes. Mothers bring their children to the eye doctor for rings under the eyes, for reddened eyes, for tired eyes and other discomforts. Examination does not always indicate that the eyes need glasses, or other eye attention. The condition may be the result of too little sleep, worry, bad dreams, or something requiring a sympathetic understanding of the child and his problems. In this category of complaints is found, not uncommonly, a disturbance little discussed or written about. This concerns children who complain of poor sight and who, on examination by the eye doctor, show nothing to account for their poor sight. These children appear upset. The doctor may make them "see" perfectly by placing a "window glass" lens over the eye. These are cases which respond to psychotherapy or suggestion rather than to actual eye treatment. These children are problem cases, similar to children who complain of palpitation when their hearts are perfectly normal, or children who vomit at will without any stomach disturbance. By questioning the parents a basis for these troubles is often disclosed. There may be disharmony in the home, or the child may feel the need of attention which he does not receive, or he may be punished without sufficient reason.

Astigmatism is a common condition for which there is, unfortunately, no simpler term. Astigmatism is not a disease and is present in most eyes whether healthy or sick. It merely means that our eyeballs are not perfectly spherical. And because perfection in Nature is the exception rather than the rule, most of us have astigmatic eyes. When you look at an unevenly surfaced mirror, your face loses its natural contours. When we see with an astigmatic eye, theoretically, things should also appear out of shape, but Nature compensates and through some effort or strain she manages to straighten things out for us. Many cases of eyestrain are really cases of astigmatism. Uncorrected astigmatism (without glasses) often results in headaches, eye fatigue and other complaints. Yet there are less sensitive persons who do not seem to mind their astigmatism.

While the term "eyestrain" is not used by eye doctors, a true eyestrain would probably suggest the strain or pull of one eye working with or against its mate. For that reason, cross-eyes are occasionally referred to as eyestrain. Most cases of cross-eyes do not appear at birth, as is commonly supposed, but rather between the ages of 1 and 6 years. It is during this age period that much can be done, but unfortunately many mothers fail to take

their children to an ophthalmologist because of some false notion that the eyes will straighten of themselves, or that the child is too young to require eye attention. These cases, if neglected, often develop into incurable blindness in the crossed eye. Not uncommonly, children have been punished because their eyes turn in. Mothers may, in their ignorance, mistake this condition for a bad habit. Many persons who are rejected for civil service, municipal, or industrial positions because of poor sight in one eye often find that it is due to unnecessary neglect in their early years. It has been repeatedly demonstrated that such impaired vision can often be prevented, or minimized, if corrective measures are taken during childhood. The economic loss to the nation from blindness in one eye as a result of neglected cross-eyes is staggering.

People often wonder what sort of vision cross-eyed people have. In young children in whom this crossing is a gradual process, there may be no subjective disturbance. In older children, or in adults, double vision is common. Cross-eyed persons have poor judgment for distance, even though one eye may have excellent vision and they are, therefore, found unsuitable for such occupations as aviation or engineering.

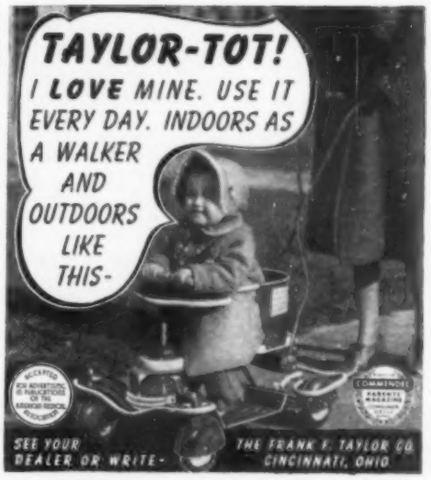
The idea of exercising the eyes to dispense with glasses or to overcome so-called eyestrain, or to correct cross-eyes, is one to attract the fancy of many persons. Books counselling the discarding of glasses, recommending instead daily eye calisthenics, have had widespread sales. Not a few of the disciples of such generally unaccepted teachings have proven cultists or nihilists who shun all forms of drugs or medicines. Eye exercises as described in these books consist of any or all forms of motions of the eyes. Appealing as they may be to the susceptible layman, they do not help vision or cross-eyes as they are really intended to do.

However, for cross-eyes there is a form of exercise which may in selective cases prove helpful provided it is supervised by an eye doctor especially trained for this purpose. These are not really muscle exercises in the sense of vigorous motions of the eyes but of controlled attempts to make both eyes see together or in unison.

Whether the eyes are turned in or out, the only way to make them both see equally is to make them straight. If a child with straight eyes is made to look into a stereoscope which has two similar pictures, his eyes will fuse them into a single picture. This is not true of the cross-eyed child in whom this fusion power is defective. The teaching of a cross-eyed child to fuse is an individual problem. If the eyes turn out, the pictures must be separated to correspond to the most satisfactory position for fusion in that child. Once the child has learned to fuse the pictures, they can be brought closer together so as to stimulate the eyes to turn in. If the eyes are crossed in, the pictures must also be brought closer together to correspond to the turning in of the eyes in order to register fusion, and then be gradually separated in order to make the eyes straight. This is a psychologic as well as a medical problem and demands careful cooperation on the part of parent, teacher and doctor.

Glasses are one of the necessary evils of civilized mankind. To what extent civilization has made our eyes require the use of glasses is something on which only speculation is possible. Some of us use our eyes and need no glasses. Others may be near-sighted or far-sighted whether or not they read or write. Illiterate persons may not feel the need of glasses because they have never felt the blessings of the added comfort that corrective lenses can provide. Glasses are prescribed not only to make us see better but to prevent further eye damage as in cases of cross-eyes and certain forms of eyestrain. Glasses do not lead to habit as is commonly supposed but serve the same purpose as comfortable shoes do for flat feet. Mothers often ask the doctor whether glasses should be worn all the time and to this a categorical reply is not necessary because no harm is done if the child chooses to take his glasses off at certain times during the day. He may, for instance, prefer to play without his glasses. It is better that the child become accustomed to glasses gradually for then he will learn of his own free will that they are really helpful.

Mothers often ask whether the child will outgrow the need of glasses. Their temporary use is an individual matter, but the compe-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tent doctor can often predict whether or not the child will require glasses permanently. Eyeglasses do not weaken eyes as some mothers believe. By improving vision they conserve sight. "My child is too wild," is a common argument offered by mothers against having their children wear glasses. They are afraid of breakage or injury to the eyes. Even the "wild" child has the instinct of self preservation on which mothers rely at every turn. The wearers of glasses number in the millions but the injuries to the eyes from broken glasses are rare. Glasses may be safely prescribed for young infants.

Many schools have been making splendid advances in conserving sight. The institution of sight-saving classes are a valuable addition to the cause of sight improvement by providing comfort in reading large letters and the selection of proper occupations for children with impaired vision. However, it has not been fully demonstrated whether such aid can actually save children's eyes in addition to making them see more comfortably. We know, for example, that in certain cases of defective vision, such as that resulting from cross-eyes, it is often the custom to strain the poor eye by keeping the good eye covered. These children are sent to the movies in order that the desire to see may awaken the "blind" eye to function.

It would seem far better for the child to avail himself of controlled training in the school under the periodic checkup of the eye doctor than to visit a clinic three or four times a week. The matter of merging children with defective eyesight with average children, rather than segregating them to keep them reminded of their physical inferiority is one for serious consideration.

It is to be hoped that the schools will discover the need for studying the problems of visual preservation. In this, the intelligent cooperation of parents is an important factor. The school and the home owe it to the child to avail themselves of all the benefits which progressive medicine has contributed to the treatment of diseases of the eye and sight conservation.

A. M. A. GIVES 77 RESEARCH GRANTS

During 1940, 77 grants in aid of research were made by the American Medical Association, it is revealed in the annual reports of officers of the Association.

Of the 77 grants, 33 were made by the Committee on Scientific Research of the Association. These were made for such investigations as certain aspects of the clotting factor in the blood, determination of certain actions of sulfanilamide, factors influencing activities of the heart, certain phases of mental ailments, duodenal and gastric ulcers and certain phases of radioactive phosphorus.

During 1940, 33 new grants were made by the Committee on Therapeutic Research, a standing committee of the Association's Council on Pharmacy and Chemistry. Among the fields to be investigated under these grants were certain phases of the actions of some of the substances produced by various glands of the body, caffeine withdrawal headaches, certain aspects of local anesthetics, drugs used in the treatment of heart ailments, the selective action of different types of poisons on the kidneys and the prevention of malaria.

The Committee on Research of the Association's Council on Physical Therapy awarded 11 grants in 1940. Investigations for which they were made included the effects of prolonged periods of fever treatment in early syphilis; certain aspects of the effect of external heat and cold, massage and other agents on blood flow, and the effect of shortwave heating on the healing of fractures. One of the grants was for the building of a lamp with which to study the physiologic effects of the borderline rays of the visible and infra-red region and their eventual usefulness in the treatment of disease.

Particularly significant in the reports is a statement by the Secretary of the Association that on April 1, 1941 the Association's membership totaled 118,441, the largest ever reported. In 1940 the membership totaled 116,266.

YOUR HOSPITAL

(Continued from page 451)

that these germs have amazing metabolic potentialities, and it may not be long before hospital laboratories must have these new instruments which enlarge objects 12,000 times or more—an addition to the hospital armamentarium that will reveal new secrets of disease, and will be an incalculably great aid in the warfare for health.

Science and invention have not, obviously, restricted their activities to the death dealing field as much as the evidence seems to indicate. The effectiveness of the life saving forces, also, has been multiplied by them. They have transformed the hospital from an "abode of despair" to a "house of recovery" in a relatively short period.

The doctors, nurses, administrators, dietitians and technicians can no more be left out of the story of medical advance than can the generals, admirals, lieutenants and colonels be omitted from the story of military victories. The army and the navy can rise no higher than their leaders, nor can hospitals. What West Point and Annapolis mean to military preparedness, the 76 medical schools in the United States and Canada, recognized by the American Medical Association, mean to medical preparedness. Their graduates in 1940 totaled 5,703. The Association has approved 732 hospitals in the United States for the training of interns, and has approved 587 hospitals for the training of residents and fellows. The teaching function of the hospital is seldom given public consideration, yet the responsibility to furnish the practical and theoretical training that keeps the medical, surgical, administrative, technical, nursing and other services advancing rests upon the hospital. In war, guns are necessary and vital to defense, but the man behind the gun must know how to operate it, or the battle is lost. And so it is with deep x-ray therapy apparatus, the surgical knife, drugs, serums, gland extracts and vitamin concentrates. Trained people are needed to employ or prescribe them. Through constant effort to raise the standards of medical education and training, the American Medical Association in particular has been a great contributor to medical and hospital progress.

On any battlefield, hospital or other kind, it is possible to have super-modern equipment and super-trained personnel and yet exhibit inferior fighting force because of lack of leadership and of coordination of effort. Hence, the stress on organization in the army. In the hospital of today in which the services are so varied, and yet must be co-ordinated to focus on a single person, the patient, it is highly important that proper organization and correlation be effected and maintained. It is the first of the basic requirements of Hospital Standardization, promulgated by the American College of Surgeons immediately following the last World War, that "physicians and surgeons privileged to practice in the hospital be organized as a definite medical staff." And just as the military staff meets to analyze past performance and to map future strategy, so the medical staff of an approved hospital—and on the last Approved List there were 2,806 of them in the United States, Canada, and a few in other countries—meets regularly to review and analyze the work that has been done and the results that have been obtained, and to plan better procedures that will overcome the shortcomings of the past.

It is a directed warfare that is being waged in our good hospitals—directed by physicians to capitalize medical science to the utmost degree for the good of the patient. Beneficiaries of this warfare last year totaled 10,000,000 people who were patients—1 out of every 13 people in the country. They entered at the rate of one every 3.2 seconds. Unquestionably it is partly because of the increasing use of hospital facilities that in the last forty years the general death rate has been lowered by 39 per cent and the average life expectancy has been increased from 49 years to 62.

Appreciation of the modern hospital is impossible without an understanding of the evolution and transformation of the hospital, and of the development of the idea of caring for the sick.

In the Dark Ages, the leper wandered in the fields, an outcast without shelter or food, except what was thrown to him from afar.

Even in Greece in the days of her glory, when temples crowned the hills and statues were erected to Aesculapius, the god of healing, the sick were brought into the temples where the priests prayed over them—but if the prayers were futile and the patient languished, he was quickly borne from the holy place so that he did not defile it by dying there.

In Rome, the hospital idea found birth under the sway of Christianity and its spirit of compassion. There, Helena, the mother of Emperor Constantine, founded hospitals in the fourth century. And at the beginning of the fifth century, Fabiola founded the first institution in western Europe "to gather in the sick from the streets and to nurse the wretched sufferers, wasted with disease and poverty," as St. Jerome expresses its purpose.

The idea took root and spread. Infirmaries and hospices began to accompany cloisters. The Catholic hospital orders and fraternities started their ministry of mercy—the Alexians, the Antonines, the Beguins, the Hospitallers, the Teutonic Knights. High in the Alps, the Monks of St. Bernard harbored the exhausted mountain climber, and one of the most picturesque of all types of hospitals was established.

In the tenth century, in Baghdad, city of enchantment, the wonder of wonders for its time was the hospital built there by the Emir Adhad Eddoula. There, separate services were held for fever patients, for accidental injuries, for ophthalmic cases, and others.

In Europe the plagues struck and the need for hospitals grew. The year 1200 marked the beginning of a widespread hospital movement—the first in world history. Pope Innocent III founded the institution at Rome called "Santo Spirito in Sassia," and encouraged other ecclesiastics to do likewise. Soon, nearly every city in Europe had built a hospital of the Holy Ghost—in all some 19,000 charitable hospitals, many of which were for lepers. But they were shelters only: Scien-

(Continued on page 508)

Camp directors have discovered that health problems of diabetic children are beyond solution in average camps.

Summer Camps for Diabetic Children

SUMMER CAMPS for children have now become a recognized institution throughout America. Countless youngsters have availed themselves of camp life during their vacation months with the greatest satisfaction to themselves and to their parents. For children, camps mean a grand and glorious holiday; for parents, they provide an excellent opportunity to increase their children's health and strength. Private pay camps have flourished for many years; likewise, municipal welfare societies have conducted camps for the poor in their communities. Religious groups, fraternal orders and newspapers, among others, have sponsored so-called "fresh air" excursions for underprivileged children. These children's summer camps may well be considered an active, growing, successful factor in the life of the American child.

The camp functions perfectly for the rank and file. But experience has shown that certain types of children cannot be accepted. The most unfortunate exception on the list is the diabetic. A child who has diabetes needs the healthful, recreational values of camp life just as much or more than the normal child, yet he is restricted from most camps. There is a good reason from the standpoint of the camp management for this exclusion. The diabetic child brings special problems with him. So special are these problems that the camp managers find they are beyond solution in the average camp. Such a child must have injections of insulin, he must have urine specimens tested frequently and he requires diets that can be prepared by dietitians only. Furthermore, shocks, or even coma, augmented by upset stomachs, colds and the general run of children's sicknesses may be fatal for the diabetic. Also, there is the responsibility of keeping these campers on restricted diets when their associ-

By FREDERICK W. WILLIAMS and JAMES F. HART

ates are indulging in between-meal delicacies. No, camp managers do not want diabetic guests.

A few years ago it became evident to physicians interested in diabetes that diabetic children should also enjoy the benefits of summer camp life. Foremost in this group was Dr. Elliot P. Joslin of Boston who made the thought an act by opening the first summer camp for diabetic children in America. Others have followed his lead so that there are now a number of excellent camps throughout the country that cater exclusively to children with diabetes.

Before these children leave camp they know how to calculate their diets, test their urine specimens and inject insulin.

The first summer camp for diabetic children residing in New York City was opened by the New York Diabetes Association in 1936. This society, at its foundation in 1935, made it emphatic that a summer camp for indigent diabetic children was one of its prime objectives. A camp committee was then appointed and immediately contacts were made with the various diabetes clinics throughout the city. It was soon found that the demand for vacations was greater than the supply. The committee could accept only a small number of children and plans were made to take 32 of the most deserving applicants.

A cottage was rented for the summer in the hilly, wooded section of Orange County. The adjacent estate was particularly fine with an excellent swimming pool which the campers were permitted to use. The staff consisted of a housekeeper, a nurse-dietitian and a counselor. Each weekend a visit was made by one of the physicians on the camp committee. Contact was made also with a physician in the nearest town to attend the camp in emergencies.

Every one was highly elated over the success of the camp. Plans were then made for an increase in the number of guests for the following year, and it was estimated that with the same organization at the same site four groups of ten campers could be accommodated. This program was carried out the following summer with even greater success. By the end of the 1937 season, the committee felt that the camp had passed the experimental stage and had shown itself to be an institution that was here to stay.

In 1938 the Association, depending entirely on voluntary contributions, experienced an unexpected failure of funds toward the end of the season. With this curtailment of financial support only three groups of twelve children were able to attend camp; the fourth group had their hopes for a two weeks vacation blasted. Nevertheless, the

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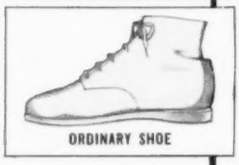

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June 1941

THUM

children who attended the camp had a grand time and the committee considered the season a success.

Not perturbed by the depression of 1938, the 1939 camp program got off to a fine start and ended with a flourish. The hoped for steady growth continued: 48 children were then able to attend the camp. Changes in the age limits were made so that 7 and 15 year old applicants could be accepted. The camp committee also realized at the end of the 1939 season that success with this number of campers showed that a larger group could be handled. At the next committee meeting it was agreed that 72 children would be the goal for the 1940 season.

Everything points to the success of the ambitious program of the camp committee for the coming season. With funds for the undertaking reasonably well assured, negotiations for a large tract of land were begun. The chosen site was a farm in the rolling hills of Ulster County, the center of one of the finest dairy sections along the Hudson Valley, and about 67 miles from New York City. When the children arrive, they will find spacious fields and many trees. A pedigreed herd of cows is still kept on the farm to provide milk for the children.

The personnel of the camp this year consists of the camp physician, two nurses, a dietitian, a male and female counselor and a junior counselor of each sex. A special financial grant has made a camp physician possible this year. In view of the extra number of campers and the excellent opportunity for research in diabetic children living a normal, active life he will be a welcome addition to the camp. The addition of the second nurse at this time makes it possible to have a skilled technician on constant duty. Two of the former campers are to be junior counselors, one boy and one girl. They will receive free board and an honorarium. Their duties will be to assist the seniors and act as examples for the new campers.

The counselor for the girls is a proficient swimmer in addition to her other necessary qualifications. The counselor for the boys this year will be a great surprise. He is an American Indian from one of the reservations. When the National Youth Administration contacted the camp committee regarding the use of Indian youths trained for this work, the idea was so interesting and stimulating that correspondence was begun with the secretary of the society for the services of either Chief Bold Moose or Chief Eagle Feather during the month the boys are to be in camp. Either chief will dress in Indian costume and will live in his own tepee on the camp grounds. Imagine the tales he is going to tell around the camp fire; imagine the trouble it is going to be to get the children to bed on time.

The camp lives up to camp traditions. The children will sleep under canvas in two large waterproofed tents. Standard army cots will rest on a raised board floor and will be covered by individual nets for protection against mosquitoes.

The camp has been organized primarily for recreation. It is meant to serve as a fresh air excursion for the needy diabetic children who were excluded from other camps because of their sickness. While it is true that these children are sick and require medical supervision during their two-week's stay, it is the policy of the camp committee to keep all medical details well in the background. For the children, the camp will be an escape from the hospital clinic as well as from the city streets. However, a daily routine is necessary for all campers, and especially so in a camp for diabetic children.

Here is the program the campers will follow:

6:30 a.m.	Rising bell Test urine specimens Setting up exercises
7:30 a.m.	Breakfast
8:30 to 9:30 a.m.	Instruction in diet
10:00 a.m.	Fruit juice or milk
9:30 to 12 Noon	Play period
12:00 Noon	Luncheon
12:30 to 2:30 p.m.	Rest period
2:30 p.m.	Test urine specimens
4:00 p.m.	Fruit juice or milk
2:30 to 5:30 p.m.	Play period
5:30 p.m.	Supper
7:00 p.m.	Test urine specimens
8:00 p.m.	Bed for younger children
9:00 p.m.	Bed for older children

During the two long play periods each day there is time for fun and frolic. Many games are played and these are largely organized by the counselors. There are many hikes through the surrounding country with visits to nearby towns. One year the camp was near West Point and the campers were able to see dress parade. Much of the play

time is consumed by swimming and water sports.

The instruction hour from 8:30 to 9:30 a. m. was found to be popular with the children when food values and diet substitutions are taught. One girl who had been on the same diet every day for over a year was thrilled when she learned how to make simple substitutions. Further instructions were given by the nurses when they were needed. When the children arrived at camp, there were about 15 per cent who could not test their own urine specimens for sugar and about 50 per cent who could not inject the necessary insulin. This was corrected so that every child in the camp was competent to do both before he departed.

Sickness at the camp has been a negligible factor. In the past four years there was not one case of sore throat or infectious disease. One child, however, had acute appendicitis and another was sent home for a well known though not serious ailment—homesickness. Diabetic upsets were likewise of small concern.

No concentrated effort is made to change the plan of treatment the children brought with them from their respective clinics. It was felt that a short stay of two weeks did not justify a change in regimen since the children were to return to their original clinics directly after their vacation. Emergency changes had to be made, however. When the children shocked, their insulin was reduced; when they voided too much sugar the insulin was raised, and if they were uncomfortably hungry the diet was increased. Examinations showed that a large proportion of the children needed adjustment. This could be attributed to two apparent causes: First, there was much more activity in the average camper's day, thus reducing the need for insulin, and, second, the frailities of the human being on a limited diet increase proportionately.

That the camp was a popular institution among the children was made especially evident by the fact that there were 40 applications filed in 1939 by former campers. The children enjoyed a chance to romp in the country with children their own age who had the same handicap. Parents also reacted favorably to the camp program. A two weeks respite from diet calculations, specimen testing and perhaps insulin injections was not frowned on by the mothers. Furthermore, these children returned home happy, ruddy, clear eyed, and in the majority of cases they had gained necessary weight.

The camp draws its guests from the homes of the underprivileged class. They are reached through the 75 diabetes clinics of Greater New York and in a few instances from physicians familiar with individual circumstances. The New York Diabetes Association has been a useful organization in the welfare of indigent diabetic children. It has, even with its limited means, made a considerable number of unfortunate children forget their troubles for two weeks in the summer and come nearer to the world that normal children enjoy. In all, 155 vacations were given to 106 diabetic children in the past four years.

The exact number of indigent diabetic children in New York City is difficult to estimate. The Department of Health believes that the number may easily reach 700. But whatever this figure, the New York Diabetes Association is working to provide a two weeks vacation in the country each summer for every indigent diabetic child in Greater New York.

SMALL BOILS ON INFANTS

The greatest attention should be paid to even small boils on infants, inasmuch as their early drainage might prevent acute endocarditis (a very serious disease involving inflammation of the membrane lining of the heart), S. Wolff advises in the *British Journal of Children's Diseases*. He reports 2 cases with both infants recovering and says that he believes that the number of diagnosed cases of endocarditis in infants would increase considerably if the triad of symptoms, pallor of the face, attacks of cyanosis or blueness of the skin, and accelerated breathing are kept firmly in mind. He also says that an early diagnosis probably would increase the number of cured cases. The 2 cases he reports originated from apparently harmless boils and both were due to Staphylococci.

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YOUR HOSPITAL

(*Continued from page 503*)

tific care was unknown in the medieval hospital.

The medieval, even the Renaissance, hospital was a gloomy place. In the Hotel Dieu in Lyons, France, at the beginning of the sixteenth century, five patients sometimes occupied one bed. A total of 549 patients, including pilgrims and poor people, were accommodated, but only one medical man looked after the surgical cases. His assistant in surgical intervention was the apothecary's boy. The stock of surgical instruments consisted of one uterine speculum, one trephine having 13 parts, one mouth-plug for use in keeping the jaws separated, one ear speculum and one elevatorium.

In 1788, in the Hotel Dieu in Paris, Jacobus Réne-Teñon was commissioned by King Louis XVI of France to investigate hospitals. He reported:

"The committee saw convalescents in the same rooms as the sick, the dying and the dead. They saw the room allotted to the insane near that of the unfortunate creatures who had suffered the most cruel operations and who can obtain no repose in the neighborhood of these madmen. The rooms where operations are performed — trepanning, cutting and amputating—contain at the same time those who are being operated on, those who are awaiting operations and those who have already undergone them. The operations take place in the middle of the room itself. One sees there the preparations for the torture, one hears the cries of those who endure it. He who is to suffer tomorrow has before him the picture of his future agonies. . . ."

The Hotel Dieu contained over 800 patients, crowded on pallets, or lying on heaps of straw in the halls, while each of the 1,220 beds in the wards held from 4 to 6 patients. Contagious disease cases were mingled with the others. Everywhere there were signs of disorder and filth. One fifth of all patients died, and almost none recovered from surgical operations.

In 1846 an epochal event occurred in one of our own hospitals, the Massachusetts General, in Boston. A young dentist, William T. G. Morton, administered ether anesthesia while Dr. J. C. Warren operated on a tumor in a young man's neck. The astonishing claim was made that the patient would feel no pain, and the onlookers were skeptical to the point of derision. But the expression on their faces changed as the patient remained peaceful and quiet under the surgeon's knife. The era of painless surgery had begun.

In 1860, in London, another important event in the history of hospitals occurred. Florence Nightingale, having returned from her wonderful work in the Crimea, established the school for nurses at St. Thomas' Hospital which revolutionized not only nursing but hospitals. Her definition of nursing as "helping the patient to live" was a new and vitalizing concept, powerful in its effect on the management of hospitals.

But, in London the hospitals still had plush carpets on the floors, swept clean with brooms. In the wards a man used the same bucket of water and the same sponge to wash all the patients' wounds. He was a "wound dresser." He went from patient to patient with his bucket and sponge: every patient had a fever and every wound was infected. No one knew about harmful bacteria.

In 1867, seven years after the founding of Florence Nightingale's nursing school, Lord Lister published his successful results with antiseptics, which he developed as an application of Pasteur's theories to surgical intervention. But the marvelous new theory was slow to be accepted in surgery. In 1872 Dr. W. Gill Wylie described as follows the conditions at Bellevue Hospital, New York:

"The nurses were ignorant and in some cases worthless characters, who accepted the impossible task of attending to and nursing from 20 to 30 patients each. There were no night nurses, and the night watchmen—3 for a hospital of 800 beds—were expected to assist patients requiring attention during the night. The sanitary condition of the hospital was shocking. I saw, while on duty, patients die from

septic diseases contracted in the wards, after the slightest surgical operations or injuries. From 40 to 60 per cent of all amputations of limbs proved fatal."

The practice of Listerism spread during the '70s and '80s, however, and the marvel became a commonplace that wounds would heal without change of dressings, when the dressings were antiseptic; that a wound would heal without the formation of pus, when the incision was made under antiseptic conditions; and that a large abdominal wound would heal without the development of fever, when the incision was kept free of the germs which produce fermentation.

Another major discovery in 1895 set the stage for the modern hospital. Roentgen discovered a magic ray that could be passed through the soft parts of the body to reveal the denser parts on a photographic plate. Immediately, the x-ray was applied by the surgeon to the diagnosis and location of fractures, dislocations and foreign bodies. Soon it was used also as a diagnostic aid: the x-ray machine had become indispensable apparatus in every hospital.

The amplification and elaboration of equipment and facilities in the hospital followed soon afterward. At the turn of the century few hospitals had laboratories; within the last twenty-five years the clinical laboratory has become an essential department, largely because of the requirement of the American Medical Association and the American College of Surgeons that routine tests be always made of blood and of urine, and that operative and postmortem tissues be given gross and microscopic examination. The average number of laboratory tests given a hospital patient today is 7, including the electrocardiograph, metabolism and other tests. Three basic tests are given practically all patients.

Today so much reliance is being placed on both the diagnostic and therapeutic aids that are available only in the hospital that a patient is hardly considered to be giving himself the best chance for recovery from most types of illness and injury unless he goes there for treatment. In the '90s, however, when surgical intervention was needed by any but poor people, it was done in the home, not in the hospital. Cause and effect are intermingled in the trend toward the use of the hospital by all classes of people because only there is it possible to find so many aids to recovery. The existence of so much expensive equipment has been made possible only because the hospital is now patronized by many people who can help financially in its advance.

Present trends and ideas that gleam like beacon lights on the horizon furnish substance for envisioning the hospital of the future. Scientific advances we may take for granted. Easily visualized, also, are advances in attractiveness of surroundings and in facilities for comfort, such as the greater use of color and more general use of air cooling, cleansing and humidifying. We may expect the attack on disease to be ever more spirited and more daring, and the results to be constantly more encouraging. We may anticipate increasing insistence on high standards of qualifications for personnel, and better organization of both the medical and the administrative staffs.

The armament program in the hospital has been and will continue to be of exceedingly great benefit to both the doctor and the patient. But it has been costly: an average modern x-ray department in a hospital today costs $50,000, a sum which would have built an entire institution before 1900. The 7,000 hospitals in the United States today have almost $4,000,000,000 invested in plants, a yearly operating cost of $850,000,000, and an annual payroll of $400,000,000. By virtue of this investment and operating expense they comprise the fifth largest industry in the country. The ratio of personnel to patients is now about one to one, but only forty years ago the average ratio was one hospital employee to two patients. Accompanying the increase in number has been the raising of qualifications, so that the personnel are not only more numerous but more expensive. It now costs a hospital four or five times as much a day to care for a patient as it did in the '80s and '90s. But since 1900 the average stay of the patient has been reduced by much more than half, and the hospital death rate has been cut by more than two-thirds, so that for the additional expenditure high returns have been realized.

Not so long ago the doctor could pack in a small satchel all the mechanical aids available to him. But he has so far outgrown his kit, and even his office, that now he concentrates more and more of his work in the hospital where diagnostic and therapeutic facilities under competent direction are available. He no longer is able to provide sufficient space, even if he could afford to acquire the necessary equipment.

It is the physician's demand for these aids that is primarily responsible for the rise of the modern hospital. He is ambitious to secure for his patients the benefits of every scientific and mechanical advance that will aid their recovery. He works through his organizations, American Medical Association, the American College of Surgeons and the specialized professional groups in co-operation with the American Hospital Association and the denominational hospital associations to improve the hospital, which is his workshop.

The modern hospital is science's supreme achievement because it provides aids which enable the physician to perform the wonders of healing. In the last analysis the modern hospital is a monument to the physician's initiative, a facility of which he has been the chief creator, and in which he also plays the leading part. American hospitals are equal to the best anywhere in the world. They are multiplying the physician's power over the forces antagonistic to life and health. They are speeding the advance against disease and disability.

MANUAL ARTIFICIAL RESPIRATION

Artificial respiration by means of the Schafer method is more effective than mechanical respiration when natural breathing has stopped, Yandell Henderson and J. McCullough Turner, New Haven, Conn., declare in *The Journal of the American Medical Association*.

They point out that the time lost in obtaining and adjusting mechanical devices may mean the difference between the life and death of the victim. They advise that all policemen, firemen, seamen, miners, boy and girl scouts, college students and others be trained in the manual (Schafer) method.

Public Health Facilities in the School Health Education Program

Health instruction involves a basis of factual information imparted through classroom procedure, says IRA V. HISCOCK in the second of a series of speeches presented at a symposium of health educators

HEALTH PROMOTION is a cardinal objective of the school program, advised Ira V. Hiscock, Sc.D. professor of public health, Yale University, at the recent symposium of health educators at Atlantic City, N. J.

Although the fundamental privilege and responsibilities of the home in relation to its children are recognized, additional efforts are being made to develop favorable health knowledge, attitudes and practices through healthful school living, health service and health instruction. In a modern school health education program, activities are planned to give due consideration to the interrelationships between the school and the community and to fundamental educational policies.

The scope of school health education, according to the Educational Policies Commission of the National Education Association, consists of educating the child and his parents in the essentials of good health care, determining health status, and providing an environment favorable to learning. In none of these areas does the school exert the only good influence on the child; its efforts are supplemented by the work of numerous health organizations. This implies a sharing program because no one group can do the whole job.

A broad gap exists between the amount of health knowledge available and its application. There is lacking a well articulated "science" of health education. The pillars—psychologic, sociologic and pedagogic—are none too steady. Many conditions in the home may affect the educational process. The community must be received as a whole to serve the family as a biologic and sociologic unit, to be more conscious of the church as an essential institution, and to minimize vested interests.

Communities are not composed of a vague mass of people seeking health information. Far from it. The "public" is an active group of men, women and children, in families, who severally constitute the community. These persons have characteristics of age, sex, race, occupation, religion, with varying economic and social levels, and all the resulting mixture of beliefs, traditions and superstitions. Their interests and their vocabularies may have a bearing on their understanding of public health. Their attitudes will run the gamut from stark indifference to violent opposition.

Health instruction involves a basis of factual information imparted through classroom procedure. It should include in its range mental, emotional, social and physical health.

The committee on Health Guidance in Schools, which has served for three years in an advisory capacity to the Connecticut State Department of Education, early in its deliberations prepared a list of many groups interested in child health. These include parents, private physicians and dentists, departments of education, of health and of welfare, voluntary health and welfare agencies, civic clubs and churches. But no one professional or social group has a monopoly of interest and responsibility. Improved child health will come only from the harmonious working together of many groups, with the various parts of individual programs interwoven to make a complete and constructive approach to the child as a whole and to the family as a unit.

The agencies most concerned with health education are the public departments of health and of education. Health departments know health problems, health facts and resources of a community. They are in a position to make a fundamental contribution to the health education program. School departments can also contribute greatly to the community health education program. Here are some of the ways:

(1) Different kind of facts are essential, many of which may be obtained from the health department. Pupils need to become acquainted with the kinds of vital statistics which are kept, why they are assembled and what they tell.

(2) Schools should make use of public health facilities in studying

what communities do in the field of public health. Children and teachers should know what the health department is doing to protect their milk and water supply.

(3) Emphasis should be given to the development of cooperation and understanding in the control of communicable diseases, bearing in mind also the fact that legal responsibility for control measures rests with the health department, although ultimate success is dependent on individual and group participation and understanding.

(4) Schools should arrange to refer pupils needing treatment to whatever facilities may have been organized by the department of health or by some other community agency.

The development of a cooperative program does not require a superimposed agency but does involve joint planning to determine what should be done for the health of children and what each group should do. Clarification of responsibility for different parts of the program will help to avoid problems of dual administration.

National health plans are striving toward promotion of maternal and child health; control of tuberculosis, syphilis, gonorrhea, pneumonia and malaria; reduction of illness and incapacity from cancer and other chronic conditions; programs of industrial and mental hygiene, of nutrition, of housing.

From the earliest days the school has been a center of educational activities in the community. The opportunities for health education in the regular school program are numerous and generally recognized through direct instruction interwoven in the curriculum and through many correlated health experiences and activities beyond direct instruction. While existing public health facilities are numerous and much of the material is effective, there is still much to be done to secure wider use of the good resources and improvement of material and methods.

Seventy-five per cent of 500 pupils in a high school, replying anonymously to questions regarding the biology course, state as the most helpful either "Study of the Human Body," or "Reproduction and Sex Hygiene." Essentially, young people want to know how to get along with people, and they have one eye, more or less clear, on love and marriage. But Ruth Grout also found by working with teachers in rural schools that much interest can also be stimulated in projects of sanitation, and of personal and community health.

An exhaustive study of community organization for health education has recently been completed by a committee of the American Public Health Association which includes representation from the groups engaged in education and in public health. It is observed that various types of community organization for health education, in which health departments and school departments work closely together, often with the assistance of private health agencies, in developing a unified community program, have originated spontaneously in many parts of the country. Joint health education committees or councils have proved useful in some localities. The mechanism of cooperation is less important, however, than the fitness of the people who participate.

The public health educator must be ready to carry on when the school teacher stops. He must also cooperate with school health teachers by discussing methods of health instruction, by providing materials and factual data for common use, and by demonstrating to school children and teachers the community health problems and resources. Recognition of the interrelationships of educational, health, social and economic factors is important.

Also, the school personnel are increasingly comparing notes with health workers and seeking assistance from them. School administrators and teachers must recognize more fully the importance of health supervision and of health instruction. Health administrators must have a better understanding of the school programs to work more closely with those responsible for these programs. We are all working for essentially the same objectives and we need faith in our goal, in our associates and in our projects that are carefully planned to foster team work. If the public is to respond to our program, the task must be so well done that the people will have faith in our work. The final test of health education is the extent to which human behavior is influenced.

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Medical News OF THE MONTH

A New Diving Apparatus for Life Saving Work

A diving apparatus for life saving work on beaches, an independent unit which can be put on and placed in operation in fifteen seconds or less is described by Christian J. Lambertson, Philadelphia, in *The Journal of the American Medical Association.*

The apparatus permits underwater breathing for from eighteen to twenty-five minutes in depths of water up to 60 feet. Its foundation is a harness that fits persons of various sizes. It weighs but 12½ pounds and consists of an inhaler, breathing tubes, a soda lime container, rebreathing bags and a cylinder of oxygen. It is claimed that it will be of particular value in the task of lifeguards in swimming under the water in an attempt to locate drowning persons.

Aircraft Performance and Human Adaptability

"The performance of aircraft now exceeds the capabilities of normal human adaptability," John R. Poppen, Washington, D. C., declares in a discussion of the "Influence of Aircraft Performance on Selection and Care of Military Aviators," published in a recent issue of the new periodical, *War Medicine.*

The author declares that because the machine now is stronger than its pilot the problem of getting the most out of it has been transformed into one of getting the most out of the man. He points out that one of the important problems involved in the selection of personnel for military aviation is the early determination of a person's "aeronautical adaptability" before the start of or early in the training period. Although no practical solution has yet been devised, he says that research aimed at solving this problem bears promise of success in the near future. Among the other problems he discusses are those involving oxygen requirements by personnel at high altitudes and the effect of high speed on the aviator, particularly in regard to rapid ascent or descent.

Regarding oxygen requirement, he says: "It is an engineering problem and should be capable of solution by careful or ingenious design" of such apparatus as pressure suits. He adds that only when speed is turned in a new direction, particularly vertically, does it have any physiologic effect on the pilot and that many investigations aimed at solving this problem are under way.

Tetanus Death Rate Reduced

A method of treating tetanus or lockjaw which resulted in a reduction of a gross death rate from 56.5 per cent among their patients in past years to a current rate of 29 per cent is described in a report in *The Journal of the American Medical Association* by Albert G. Bower and the late Hyman I. Vener, Los Angeles. A total of 100 patients were treated by the new method and if the 12 dying during the first twenty-four hours of hospitalization (when the prognosis or outcome is least favorable) are excluded, the net death rate among the remaining 88 patients was 19.3 per cent, the report says.

The death rate cited in previous reports in cases of tetanus has usually varied from 50 to 70 per cent, or occasionally even higher.

The essence of their method involves a minimum dose of 200,000 units of antitoxin on a definite schedule covering a period of twenty-four to thirty-six hours after the admission of the patient. Thereafter, the patient is not disturbed for a period of ten days to two weeks except for giving 1,500 antitoxin units every four days in order to maintain desensitization until complete recovery ensues. Important among the other phases of their method is special nursing care with particular emphasis placed on absolute quiet and the elimination of annoyances.

Compulsory Health Insurance

The claims that compulsory health insurance in this country will result in a healthier population appear to be refuted by the large number of physical defects found in an examination of a group of English working people who are under national health insurance, *The Journal of the American Medical Association* says in an editorial.

A thorough examination of 1,352 men revealed 1,485 defects of the alimentary tract, including dental caries; 298 of the heart and blood vessels; 50 of the lungs; 18 of the nervous system, and 42 of the urinary and reproductive organs. Concerning the examination *The Journal* says:

"Since this examination is based on a fair sample of the English working population, it seems to offer a challenge to those who claim that compulsory health insurance encourages preventive care, discovers disease in its early stages, assures adequate care of the insured at all times and maintains a higher physical standard for the insured than is found among the noninsured population of a like kind in the United States."

A Surgical Use for Latex

Surgical reconstruction of such missing parts of the body as the nose or ears is now being performed with a compound utilizing prevulcanized latex as the basic substance, with results far better than any other material heretofore used, Arthur H. Bulbulian, Rochester, Minn., reports in *The Journal of the American Medical Association.*

Latex is the creamy sap of the rubber tree from which all natural rubber goods are made. The compound is said to overcome the deficiencies of previously used materials in such surgical reconstruction in that it combines the durability of vulcanite or metal and the translucence of gelatin-glycerin mixtures.